Kentucky Drug Court Statewide Management Information System (KDC-MIS)

Kentucky Drug Court Statewide Management Information System: Recommendations and Implementation

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Executive Summary

The Kentucky Drug Court programs are complex in nature and would require a comprehensive computerized Management Information System. Management Information Systems (MIS) are defined as computer systems designed to aid the executives and programs that run businesses, government agencies, social services, and other organizations. A MIS is a computer-based system for entering, storing, processing, and organizing data to provide various levels of management with organized, accurate, and timely information needed to supervise activities, track progress, make decisions, and isolate and solve problems.[1]

The purpose of this project is to provide recommendations, to develop a statewide Drug Court management information system, and to implement the Kentucky Drug Court MIS. The purpose of Phase I of this project was to collect background information needed to provide recommendations for a Drug Court MIS in Kentucky. To achieve this goal the following activities were conducted: (1) The management information system and Drug Court literature was reviewed; (2) Drug Court programs with established management information systems across the United States were surveyed; (3) Focus groups with staff from the three most established Drug Court programs in the Kentucky were conducted; and (4) Administrators at the three most established Drug Court programs in Kentucky were interviewed. Phase II of this project provides recommendations for a Statewide Kentucky MIS based on the findings of Phase I. Phase III describes the development and implementation of the Kentucky Drug Court MIS.

Phase I: Background Summary

Literature Review. Literature was reviewed regarding management information systems and specifically Drug Court management information systems. The literature was used to develop interview protocols for the national survey, focus groups, and administrative interviews.

National Survey Results. Interviews with seven Drug Court program MIS administrators across the nation were completed. Three of these systems used ACCESS, while two others used Visual Basic as a programming language and operated on a Microsoft SQL database. These systems all used a similar base data set and the majority of the Drug Courts surveyed did not allow access to non-Drug Court personnel. The primary purposes of the systems were: (1) To have a single database and a chronological history for all Drug Court participant information; (2) To track client progress through the program including treatment recommendations, treatment progress, drug testing results, and other program progress indices; and (3) To give judges and Drug Court staff immediate access to individual participant records and overall program records. The Drug Court program surveyed reported that staff and judges accessed the MIS throughout the day. Security was maintained by a system of login IDs and passwords. These systems were maintained by a variety of sources, including case managers and county MIS staff. Ongoing training was available to nearly all Drug Courts surveyed.

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Barriers to implementation mentioned by respondents across the nation included the importance and difficulty of determining what information should be included in the MIS, hesitancy by some Drug Court staff to use the MIS, and a lack of sufficient staff training on the MIS procedures. Although there were some common themes for each program, there were also differences. For example, each of the programs served different jurisdictions. "With so many differences across the spectrum of Drug Courts it is not surprising that the diversity is also found in the management information systems upon which courts are increasingly reliant for information that supports essential decision making. Generally, the development of automated systems to support the Drug Court has lagged behind the implementation of the court itself. That is, typically the court becomes operational using a wholly paper based, or paper and partially automated information system before serious thought is given to the appropriateness of putting into place an automated MIS."[2] The overall recommendations from the interviews across all of the Drug Court program sites were that a MIS should use the latest technology available and should be task oriented, evaluative, and user-friendly to facilitate Drug Court program staff utilization and efficiency.

Focus Group & Administrative Interview Results. Some major concerns were expressed both in the focus group sessions and in the administrative interview. Security was a major concern, especially concern about maintaining client confidentiality. Specifically, staff did not want non-Drug Court personnel to have access to Drug Court records. Drug Court staff and administration indicated that they believed the MIS would help generate reports and keep track of records in a more efficient manner. Computers were not currently used for program or client records. Computer training will be necessary at all three sites to facilitate the successful implementation of the Drug Court MIS.

Phase I of this report describes the background research conducted to prepare recommendations for a Kentucky MIS, Phase II of this report.

Phase II: Recommendations Summary

Phase II recommendations included implementing a state-of-the-art system designed to meet both the present and future needs of Kentucky's Drug Courts. This recommended MIS will take advantage of the latest technological advances such as the internet and digital cameras with attention to expansion and ease of use. Three servers are recommended to allow for the storage of client information, the immediate generation of statistics, and interdepartmental email. It is recommended that these servers each have a specific function: (1) Operate a database that will compile all client information collected during the course of the program; (2) Provide access to the Internet to allow Drug Court staff access to local, state, and national information relevant to the Drug Court program; and, (3) Provide email for intra-staff communication and for communication with external individuals and agencies. Drug Court staff would access these servers through personal computers.

[2] Kentucky Drug Court Administrative Office of the Court Technical Assistance Report. Owen Greenspan. SEARCH, The National Consortium for Justice Information and Statistics, 1999, p. 3.

The proposed Drug Court MIS has four main benefits: (1) *Client data and confidentiality* will be secure; (2) *Client information* will be updated instantaneously; (3) This plan will allow for efficient *expansion* with little cost at the local level; (4) This plan meets the *overall goals* of the Drug Court MIS that were expressed in the findings of the literature review, national survey, focus groups, and administrative interviews.

Client Data and Confidentiality. A critical component of this recommendation is that one server will be devoted strictly to client data. In addition, database security will be handled at multiple levels. Level one will be the firewall, level two will be the proxy server, and the final form of protection will be user access levels.

Client information. An important component is that client data will be stored on the network server. This is crucial because as client information is entered into the system the changes will immediately be saved to the network, thereby updating client information instantaneously.

Expansion. The network will be flexible enough to allow for future growth of the Drug Court program at minimal cost because the system is designed with the expectations of expansion. Only minimal hardware specifications, therefore, are required at a local site for this system to work. The proposed Drug Court MIS will also allow those outside the network to access the database if needed.

MIS Overall Goals. The proposed Drug Court MIS system will allow the following goals to be met:

- Missed drops and failed drug screens will be reported in a timely and efficient manner.
- Monthly, quarterly, and annual reports can be generated across all sites, or at an individual site, with the click of a button.
- All Drug Court forms will be generated easily and will contain current data.
- A single database can store a chronological history of all Drug Court participant information. Data stored will include events such as sanctions, accomplishments, and important dates.
- Links outside the Drug Court site can be included in the network.

The Kentucky Drug Court MIS will incorporate information about each participant, including the intake assessment, initial criminal history, program progress, and client information in need of an update (e.g., changes in housing or employment). The MIS will record and document all this information. Additionally, the MIS will provide aggregate and summary information at the individual, program, and state level.

Data History. The focus groups and administrative interviews indicated that most of the client information across the three Drug Court sites surveyed was in paper form. It will be necessary to enter this information into the MIS to ensure a complete chronological history of all Drug Court participant information.

Implementation. Several steps are recommended for implementing the MIS. First, the MIS should be beta tested in at least one site. System designers would work with the Drug Court staff to

ensure that the software is user friendly and meets the Drug Court program's needs. Second, a manual should be developed before the full MIS is implemented at all three sites. Third, extensive training is recommended. Finally, comprehensive documentation should be developed for the first 3-6 months for all problems encountered while implementing the MIS. This documentation will allow the MIS to be fine-tuned, training to be adapted to deal with specific issues, and the manual to incorporate common questions and problems. This will ensure that the Drug Court staff benefit the most from the MIS and that any problems that might have gone originally unnoticed can be corrected.

Training. Computer training will accompany the installation of the new MIS. This will ensure that the system will be used both effectively and efficiently, thus resulting in a more effective Drug Court program.

Phase III: Development and Implementation Summary

Phase III, the development and implementation, was the last phase of the KDC-MIS project. Over a 17-month period the recommendations from Phase II were modified to fit the current Drug Court program needs. Instead of one statewide system, each individual site was provided with a server for client data. This data is then merged into an overall state server for statewide reporting. The implementation of the KDC-MIS began with the intake assessment development and automation for both adult and adolescent Drug Court participants. Then intake status tracking was implemented, the first level database architecture, exit interview, second level database architecture and program monitoring were developed. Once the basic structure of the MIS was in place for inputting information, feedback mechanisms were developed including template development, site reports, and statewide reports. Once the input and output mechanisms of the MIS were in place, beta testing was implemented in multiple sites and help manuals were developed. Technical assistance and training were then provided to ensure a smooth transition of Drug Court staff to the KDC-MIS. Throughout the project careful attention was paid to consistent and open communication between key stakeholders. This communication took place through regular meetings with key stakeholders.

Concluding Remarks

Phase I of this report provided background information from the literature, interviews with other Drug Court programs which had an MIS, Drug Court staff focus groups and administrative interviews. In Phase II, the background information collected in Phase I was used to develop recommendations for the Kentucky Drug Court management information system. Phase III described the development and implementation of the KDC-MIS. This process was overall, a collaborative process which included the Drug Court program manager and staff, AOC, a programmer, a systems engineer, and an evaluator. This collaborative process produced a user friendly MIS system adapted and developed specifically for Kentucky Drug Court program needs. The system works well within the constraints the Drug Court program operations with regard to computer systems because of the close collaboration and support provided by AOC. Finally, this system is designed to provide optimal information for program feedback and progress on a regular basis as well as for both process and outcome evaluations which are required for Drug Court program funding.

Introduction

In response to the rising costs of incarceration and increased drug related arrests, Kentucky's Administrative Office of the Courts (AOC) established the state's first Drug Court program in July 1996 in Fayette County. The mission of Kentucky's Drug Courts is to create a criminal justice environment that stops illicit drug use and related criminal activity while promoting recovery. In 1999, Kentucky's Drug Courts expanded to include eight operational programs across Kentucky while more than 10 counties received grants to plan a community Drug Court program. As of January 2001, there were ten established adult Drug Court programs and 20 adult Drug Court programs in the planning stages in Kentucky.

Drug Courts are information-driven. Decision making in Drug Court cases requires information about many aspects of individuals' life histories and current behavior. The information needed for operational decision-making in individual cases is not limited to the criminal justice aspect or the treatment aspect. Instead, information is needed about both areas and beyond, including education, employment, physical and mental health, housing, and family situations. The thoroughness of the Drug Court program suggests a comprehensive Management Information System (MIS) is needed for Drug Court programs throughout Kentucky. MIS are defined as computer systems designed to aid executives and programs that run businesses, government agencies, social services, and other organizations. A MIS is a computer-based system for entering, storing, processing, and organizing data to provide various levels of management with organized, accurate, and timely information needed to supervise activities, track progress, make decisions, and isolate and solve problems.[3]

The purpose of this project is to develop recommendations and then to develop and implement a Kentucky Drug Court MIS. Phase I of this project collected background information needed to provide the recommendations for a MIS in Kentucky. To achieve this goal the following activities were conducted: (1) MIS and Drug Court literature were reviewed; (2) Drug Court programs with established MIS across the United States were surveyed; (3) Focus groups with staff from the three most established Drug Court programs in Kentucky were conducted; and (4) Administrators at the three most established Drug Court programs in Kentucky were interviewed.

[3] Microsoft Press Computer and Internet Dictionary & 1997, 1998 Microsoft Corporation. All rights reserved. Portions, *The Microsoft Press Computer Dictionary, 3rd Edition,* Copyright 1977 by Microsoft press. All rights reserved.

PHASE I: Background

Review of the Literature

Literature was reviewed regarding management information systems and specifically Drug Court management information systems. The literature was used to develop interview protocols for the national survey, focus groups, and administrative interviews. Four main documents and sources were reviewed:

(1) Office of Justice Programs (1998). Drug Court Monitoring, Evaluation, and Managing Information Systems, U.S. Department of Justice, The Justice Management Institute (OJP Grant NO. 95-DC-MX-K001);

(2) Buffalo, New York, Drug Court Management Information System prototype and description available at: http://www.american.edu/academic.depts/spa/justice/publications/mis.html (verified October, 26, 200);

(3) Frequently Asked Questions Regarding the Buffalo MIS available at http://www.american.edu/academic.depts/spa/justice/publications/mis.html#BMIS (verified October, 26, 200); and,

(4) Guideline for Compiling and Entering into a Database Information Relevant to Drug court Program Evaluation at http://www.american.edu/spa/justice/publications/guide.html (verified October, 26, 200).

National MIS Drug Court Survey Results

Introduction

Purpose. The goal of the national survey was to describe existing Drug Court management information systems, and to document the strengths and implementation barriers of these systems. The literature reviewed was used to develop 18 open-ended questions.

Procedure. Ten established Drug Court programs with management information systems were identified through SEARCH and the National Consortium for Justice Information and Statistics, the Office of Justice programs, and the Drug Courts programs Office. Seven of the final 10 organizations were surveyed. Two organizations could not be contacted and the third program contacted did not have an existing management information system.

Telephone interviews were completed with program administrators or Drug Court staff who were knowledgeable about their MIS in August 1999. Interviews took between 15 and 30 minutes to complete. Table 1 identifies the Drug Court programs that completed surveys:

Table 1. Drug Court Programs Surveyed

DRUG COURT MIS	CONTACTS
The Jacksonville and Buffalo Drug Court MIS	José Ferrer, Case Manager (Database Manager for Drug Court MIS), 50 Delaware Avenue, Suite 400, Buffalo, New York 14202, (716) 851-4157
The South Florida HIDTA MIS	Bob Kidd, Systems Manager, 8401 N. W. 53rd Terrace, Miami, Florida 33166, (305) 716-3099
Washington/Baltimore High Density Drug Trafficking Area (HIDTA) Treatment Tracking System	Bob Bouland, Operations Manager, 7500 Greenway Center Drive, Suite 900, Greenbelt, Maryland 20770, (301) 489-1700
The New York Drug Courts (based on the Brooklyn Treatment Court MIS)	Joe Lombardo, Principal Computer Systems Analyst, Division of Technology, Rensselaer Technology Park, 125 Jordan Road, Troy, New York 12180, (518) 285-8237
Delaware Drug Court MIS (in process)	Tom Ralston, Trial Court Administrator, 1020 North King Street, Wilmington, Delaware 19801, (302) 577-2400
Drug Court Sarasota, Florida MIS	Julie Vaughn, Drug Court Director, State of Florida, 12th Circuit, Judicial Center, 8th Floor, 2002 Ringling Boulevard, Sarasota, Florida 34237, (941) 316-1662
Washington D. C. Pre Trial Real-time Information System Manager (PRISM)	Ron Hickey, Information Technology Director Pre Trial Services, DC, Pretrial Services Agency, 400 F Street, NW, Room 310, Washington, D.C. 20001, (202) 220-5670

Survey Results

Overview. Six of the Drug Court programs had established management information systems and one Drug Court program was in the process of implementing a management information system. There were some similarities in the systems, but they are all differed conceptually and in overall design.

Table 2. Drug Court MIS Hardware and Software

DRUG COURT MIS	ACCESS BASED	VISUAL BASIC	SQL SERVER	OTHER COMPUTER PROGRAMS AND HARDWARE
The Jacksonville and Buffalo Drug Court Management Information System	X			
The South Florida HIDTA MIS		X	X	
Washington/Baltimore High Density Drug Trafficking Area (HIDTA) Treatment Tracking System	X			
The New York Drug Courts (based on the Brooklyn Treatment Court MIS)				X
Delaware Drug Court MIS (in process)		X	X	
Drug Court Sarasota, Florida MIS	X			
Washington D.C Pre Trial Real-time Information System Manager (PRISM)				X

As noted in Table 2, three of the Drug Court management information systems were ACCESS-based. ACCESS is a Microsoft relational database designed for personal computer use. Additionally, two of the Drug Court systems used Visual Basic as their programming language and operated on Microsoft SQL servers. SQL is also a relational database, but it is designed for network use. The New York Drug Court used an NT server and Sybase database with Powerbuilder. The PRISM system utilized a mainframe and Local Area Network-based system, which is DOS-based, with Novell as their network operating system.

Survey respondents indicated that the primary purposes of a Drug Court management information system included:

(1) To have a single database and a chronological history for all Drug Court participant information;
(2) To track client progress through the program including treatment recommendations, treatment progress, drug testing results, and other program progress indices; and
(3) To give judges and Drug Court staff immediate access to individual participant records and overall program records.

The management information systems were accessed throughout the day to update and obtain participant information. Additionally, some of the systems were used daily during court sessions by judges and other Drug Court staff (treatment providers, case mangers, attorneys, and probation officers, etc) who could only access the system while at the courthouse.

All Drug Court staff members had access to the management information system; however, confidentiality and security were maintained by using login IDs. Each user had an ID and an assigned password to gain access to their system. This allowed a specific user access to the files he or she needed, but limited access to information that was not needed (e.g., other Drug Court program data, another case worker's files, etc.). For example, the Delaware Drug Court will use a protocol basis for system security. Case Manager "A" will only have access to "A" cases. The Case Manager Supervisor, however, will be able to view all cases. Case Managers and their treatment agencies login via the Internet because they are not employed by the courts.

Table 3. Maintenance Providers for Drug Court MIS

DRUG COURT MIS	PRIMARY MIS MAINTENANCE PROVIDERS
Jacksonville and Buffalo Drug Court MIS	Case Manager who designed MIS
The South Florida HIDTA MIS	In-house MIS staff
Washington/Baltimore High Density Trafficking Area (HIDTA Treatment tracking System	The Operations and Systems Managers
The New York Drug Courts (based on the Brooklyn Treatment Court MIS)	Statewide Court MIS Department
Delaware Drug Court MIS (in process)	The Systems and Database Managers
Drug Court Sarasota, Florida MIS	The County MIS staff
Washington D.C. Pre Trial Real-time Information System Manager (PRISM)	Pre Trial Services with an Information Technology staff of 15 people

As seen in Table 3, the systems were maintained in a variety of ways including: (1) In-house MIS staff; (2) A designated Case Manager who is knowledgeable about the system; (3) The Operations Manager and Systems Manager; (4) A statewide MIS Director; (5) The County MIS staff; and, (6) Pre-trial Services with an Information Technology staff of 15 people.

Table 4. Training and Technical Support

DRUG COURT MIS	ONGOING TRAINING AND TECHINCAL SUPPORT PROVIDERS
Jacksonville and Buffalo Drug Court MIS	No ongoing training
The South Florida HIDTA MIS	A help desk for Drug Court MIS users
Washington/Baltimore High Density Drug Trafficking Area (HIDTA) Treatment Tracking System	Training center with two full-time trainers
The New York Drug Courts (based on the Brooklyn Treatment Court MIS)	Statewide court MIS department
Delaware Drug Court MIS (in process)	The company that designed the system initially, then the Systems and Database Managers
Drug Court Sarasota, Florida MIS	The special MIS trainer
Washington D.C. Pre Trial Real-time Information System (PRISM)	The in-house MIS training staff

Ongoing training and technical support for the South Florida HIDTA MIS was managed from within their office and included a help desk for users to call for assistance. As noted in Table 4, other programs used a variety of training and technical support resources including: a designated training center with two full-time trainers; the systems' designer and an in-house MIS technician; a statewide court MIS department; the company that designed the system initially and the systems and database manager; and a special MIS trainer.

All of the respondents indicated that their MIS could be utilized across multiple sites. In addition, all of the respondents indicated that agencies outside of the Drug Court program could access the information from the Drug Court MIS if given access by the Drug Court administration, however, at the time of the interviews only a few of systems were actually connecting with other systems. The South Florida HIDTA MIS allowed limited access to drug testing staff, treatment facility staff, mental health agency staff, and probation and parole office staff. The Delaware Drug Court MIS (in developmental stages) will be available to drug treatment staff, drug testing staff, and individual case managers employed by a health and social services agency. The Delaware Drug Court's system will also access the current state criminal justice database called CMS, which is like Kentucky's CourtNet system. Once the PRISM system is established on the Internet it will be available to certain agencies outside the PRISM realm.

The Drug Court management information systems are used to store critical program data including: demographic information, treatment recommendations and compliance, urine screens and results, sanctions, history of restitution payment, and group session attendance for all participants.

Most of the programs implemented their system by researching and analyzing other management information systems, and more specifically, other Drug Court management information systems. A second necessary step was identifying resources and funding for the MIS. The third step was developing and implementing the MIS. Several systems were implemented through the prompting of a judge who saw a need to access a "snapshot" of the participants' records on computer screen.

There were a number of barriers to the implementation of these Drug Court management information systems. For example, hesitancy from the clerk's office to enter information into the system because of a lack of staff to do the entry, a lack of standardized information collection across Drug Court programs in one state, and difficulty in determining what information should be included in the management information system were all mentioned as problems. Additional barriers included insufficient time and limited funding devoted to building the system, staff training, and the lack of utilization of the Drug Court MIS.

The Drug Court management information systems had small but consistent problems that required system updates after the initial implementation. For example, the Washington/Baltimore HIDTA system was initially written in Windows 95, but was upgraded because it was too slow. The Drug Court program in Sarasota, Florida, experienced data loss because users hit the wrong key on the keyboard. Upgrading the system when necessary, and providing additional training were used to address these problems.

Additional comments made by respondents included:

- The South Florida HIDTA MIS Systems Manager stated their program is far-reaching and not for a typical user. The system required considerable funds for implementation and upkeep and also required a database administrator.

- The New York Drug Courts, based on the Brooklyn Treatment Court MIS, was available in the public domain and could be viewed on the Web at **http://www.drugcourttech.org**.

- The Delaware Drug Court Trial Court Administrator indicated that the SRG Systems Resource Group began building their new system in August 1998.

Summary of Recommendations

Recommendations based on the national survey for the Kentucky Drug Court MIS included:

1. To develop a sophisticated and user-friendly system with the latest technologically advanced hardware and software. Most Drug Court management information systems in operation were ACCESS-based, or used Visual Basic as a programming language and operated on a Microsoft SQL server.

2. Confidentiality/security issues should be considered from the inception of a new Drug Court MIS. Security recommendations included limiting access to staff, and limiting staff access to ensure client confidentiality.

3. There should be one staff person dedicated to maintain the Drug Court MIS operation.

4. Respondents indicated that a major barrier to implementing the MIS was utilization of the system. Some respondents indicated that staff were reluctance to use the MIS because of a lack of computer skills, training, and time. Training and technical support should be ongoing and available on a consistent basis.

5. The primary purpose and key data components should be common to all Drug Courts sharing the MIS. The data components should include all relevant client information, including: demographic data, treatment recommendations and compliance, group session attendance, urine screen results, sanctions, restitution payments, re-arrests while in the Drug Court program, and the principal accomplishments of each participant while in the Drug Court program. The overall goals of the MIS should include: (1) To have a single database and a chronological history for all Drug Court participant information; (2) To track client progress through the program including treatment recommendations, treatment progress, drug testing results, and other program progress indices; and (3) To give judges and Drug Court staff immediate access to individual participant records and overall program records.

Focus Group Results

Introduction

Purpose. The purpose of consulting the focus groups at the three established Drug Court program sites was to collect staff and administrative perceptions regarding the proposed MIS.

Procedure. Three focus groups were conducted in August and September 1999. The first focus group was conducted with the Fayette Drug Court staff in August 1999. All seven staff members attended as well as the Drug Court Manager and Field Coordinator. Owen Greenspan with SEARCH, the National Consortium for Justice Information and Statistics, attended the meeting. Mr. Greenspan was writing an evaluation of several Drug Court programs that utilize management information systems and is regarded as a national expert in Drug Court management information systems. The Warren Drug Court program focus group was conducted in August 1999. All six members of the Warren Drug Court staff attended the meeting. The third, and final, focus group was conducted with the Jefferson Drug Court staff in September 1999. Ten members of the staff, including the treatment coordinator, attended. One staff member was unable to attend, but was interviewed separately.

Results. The conclusions from these three focus groups included: (1) Minimal information was currently computerized; (2) Computer knowledge was limited among staff members and computer training for all Drug Court staff will be critical; (3) Staff were concerned that the MIS would be time consuming to use and to enter client information; (4) Staff were very concerned with maintaining client confidentiality; and, (5) Staff acknowledged that one of the greatest benefits of the MIS will be increased access to client status, summary program data, and reports.

Current Data Systems. The majority of program information and client records were recorded on paper and filed according to each of the program systems. Typically, monthly reports were compiled manually by tallying information from client case files. Minimal data were computerized across the three programs. For example, the Fayette Drug Court program collected intake data (Addiction Severity Index) and stored monthly statistics on the computer, using Excel, while all other client and program information was stored on paper. A few of the staff occasionally used WordPerfect, sometimes. The Warren Drug Court program also used a paper system for client and program data. Some of the Warren Drug Court staff used WordPerfect Version 6 and Q & A Write for word-processing. Warren Drug Court staff also had access to Microsoft Excel, but did not use the program. Nearly all records for the Jefferson Drug Court program were kept on paper in client case files.

Data. The following data was indicated as necessary for inclusion into a management information system: Psycho-Social instruments/intake information, demographic information, employment, urine screens, sanctions, referrals to outside agencies, significant client accomplishments, client group and individual counseling attendance, child support payments, restitution payments, and alumni group participation.

Reports. Staff indicated they wanted to be able to access monthly statistical reports. Monthly statistics should include information about client entrance, urine screens, meeting

attendance, employment, education, housing, court obligations, sanctions, re-arrests, and terminations. Other statistical reports, case notes, and the ability to generate court orders were also recommended to be part of the MIS. Weekly, monthly, quarterly, and annual statistical reports were generated manually, and information in these reports should be included in the MIS. Drug Court staff also mentioned that a free text file for case notes would be beneficial. Drug Court staff recommended that a variety of templates be a part of the MIS so they could generate the orders. Drug Court staff would also like to be able to enter a court date and obtain a docket so they could work on the case notes for each client on the docket.

Outside Agencies. The three Drug Courts differed in their views about whether outside agencies should be accessed by the Drug Court MIS. The Fayette Drug Court staff would like the MIS to be compatible with several outside agencies. These agencies would include the Fayette County Jail, the Division of Child Support, and the District Court. The Fayette Drug Court program receives urine screen results from the Fayette County Jail and information on payment of child support from the Division of Child Support. A record of District Court sessions is kept in the District Court computer. These files would aid the Fayette Drug Court staff in extracting court data about Drug Court clients. The Jefferson Drug Court staff would like to be able to access the Jefferson County Health Department urinalysis results files for Drug Court clients. The administration would like to be able to access the Jefferson County budget system to increase accuracy in funding reports. Spreadsheets were sent to the Jefferson Drug Court program, but a more up-to-date system was desired. All three Drug Court staffs would prefer the MIS be compatible with Sustain and CourtNet. With the exception of CourtNet and Sustain, Warren Drug Court staff did not express interest in being able to access files about Drug Court clients from other agencies.

Security. Confidentiality and security issues were important to all Drug Court staff. Special concerns were indicated by Drug Court staff members who are Certified Alcohol and Drug Counselors. Certified staff could lose their certification if client treatment records are made public. All staff wanted the MIS to include general statistics for monthly reports, but were concerned about security maintenance of specific information about clients. Drug Court staff emphasized that agencies outside of the Drug Court program should not have access to Drug Court program files and that Drug Court staff members should not have access to files for other Kentucky Drug Court programs. Levels of access will vary for multiple MIS users. It was recommended that password protection and limiting user access to specific fields be used to protect client confidentiality. Certain individuals would have read-only access and there should be limitations to the read-only information.

Barriers and Solutions. Some of the barriers to implementing a MIS that were mentioned by the staff included: (1) Drug Court staff have limited technical knowledge and a lack of familiarity with computers. Staff members indicated they were concerned about mistakes made while entering data. This could be overcome by intensive individual computer training. (2) Another barrier to a MIS would be the time it takes to input data. It was suggested that a staff member should be hired to input and manage data.

Focus Group Recommendations

Focus group recommendations are:

1. Client confidentiality should be a major concern when developing the MIS. People outside of the Drug Court staff should not access records and access levels for staff should be varied and secured by passwords.

2. Data components for a new MIS should include all relevant personal information about each client.

3. Computer training should be available to all Drug Court staff who will use the MIS. Training should be ongoing and individualized.

4. The Drug Court MIS should have links to access a variety of outside organizations that work with the Drug Court program, such as the health department, the police, the local jails, and criminal history databases (Sustain, CourtNet, NCIC).

MIS Administrative Interview Results

The purpose of the administrative interview was to determine how Drug Court data was collected and archived at each Drug Court program. In-depth interviews were conducted with program administrators at the three Kentucky Drug Court sites. Results of the administrative interviews paralleled the focus group results and indicated that minimal data were computerized, most of the monthly statistical reports were generated manually, and training for staff on the MIS would be critical to a successful implementation. Additional information was collected regarding the storage and condition of client records since the program's inception. This information will be used in Phase II, but is not reported separately here.

Summary of Phase I Results

Seven Drug Court programs across the nation were interviewed concerning their management information system. Three of these programs used the relational database ACCESS and two programs used SQL also a relational database. Most of the management information systems were compatible with other state organizations yet did not currently share information with other systems.

The primary purposes of the systems were: (1) To have a single database and a chronological history for all Drug Court participant information; (2) To track client progress through the program including treatment recommendations, treatment progress, drug testing results, and other program progress indices; and (3) To give judges and Drug Court staff immediate access to individual participant records and overall program records. The Drug Court programs indicated the management information systems were accessed throughout the day. Security was maintained by a system of logon IDs and passwords. Systems were maintained by a variety of individuals including case managers and county MIS staff. Ongoing training was available to nearly all Drug Courts surveyed. The majority of Drug Courts surveyed did not allow non-Drug Court personnel access to the system.

Implementation barriers mentioned in the national survey included the importance and difficulty of determining what information should be included in the MIS, hesitancy by some Drug Court staff to use the MIS, and a lack of sufficient staff training on the MIS procedures. Although there were some common themes across each program, there were also differences. For example, each of the programs served different jurisdictions: "With so many differences across the spectrum of Drug Courts it is not surprising that the diversity is also found in the management information systems upon which courts are increasingly reliant for information that supports essential decision making. Generally, the development of automated systems to support the Drug Court has lagged the implementation of the court itself. That is, typically the court becomes operational using a wholly paper based, or paper and partially automated information system before serious thought is given to the appropriateness of putting into place an automated MIS."[4] Primary recommendations based on results included: A new MIS should use the latest technology available and should be task oriented, evaluative, and user-friendly to facilitate Drug Court program staff utilization and efficiency.

Some major concerns were expressed both in the focus group sessions and in the administrative interview. Security was a major concern, especially concern about maintaining client confidentiality. Specifically, staff did not want non-Drug Court personnel to have access to Drug Court records. Drug Court staff and administration indicated they believed the MIS would help generate reports and keep track of records in a more efficient manner. Computers were not currently used for program or client records. Computer training will be necessary at all three sites to facilitate the successful implementation of the Drug Court MIS.

[4] Kentucky Drug Court Administrative Office of the Court Technical Assistance Report. Owen Greenspan. SEARCH, The National Consortium for Justice Information and Statistics, 1999, p. 3.

PHASE II: Recommendations

Overview of Recommendations

Based on Phase I of this report, Kentucky Drug Court Management Information System recommendations are made. The MIS plan detailed below is based on internet technology with an emphasis on expansion and ease of use. It consists of multiple servers to allow for all client information to be stored, statistics to be easily generated, and intradepartmental email.

A networked system similar to the internet is the optimal way to operate the Drug Court MIS. This type of network is operated by using one or more servers, which are accessed by personal computers. The servers have three main purposes: (a) To operate a database that would compile all client information collected during the course of their involvement with the program; (b) To provide internet access to allow Drug Court staff access to local, state, and national information relevant to the Drug Court program; and, (c) To provide email for intra-staff communication and communication with external individuals and agencies. The Drug Court staff would access these servers though personal computers.

This system has four main benefits: (1) Client data and confidentiality will be secure; (2) Client information will be updated instantaneously regardless of the program location; (3) This plan will allow for efficient expansion with little cost at the local level; and, (4) This plan meets the overall goals of the MIS expressed in the findings of the literature review, national survey, focus groups, and administrative interviews.

Client Data and Confidentiality. One of the critical components to this recommendation is that one server will be devoted strictly to client data. In addition, security of the database will be handled at multiple levels. Level one will be the firewall. This is the device that maintains system security by limiting access to only Drug Court program staff. The firewall will be put into place on the router and will be managed by a network administrator. This is a common security strategy. Level two will be the proxy server. All access to the Internet must go through this server. Separating client data and internet servers increases security.

The final security measure recommendation is controlled access levels. Access levels will control the system by restricting user access depending on job level. Restrictions will be placed on users throughout the network and will be administered through the use of a password, which will be required to enter the system. Network access will be administered on multiple levels. The top level will be a network administrator who will permit site administrators access to the system. Site administrators will then be in charge of providing access to caseworkers and judges at the local level. By setting this many access levels, the network will protect client confidentiality and yet, will be flexible. Individual Drug Courts can either allow or restrict access to the program MIS depending upon their local needs. See the table and example below for more information about access levels.

Table 5. Restriction Level Recommendations

Restriction Levels	
Level	Restriction
1) Outside Agencies	Staff from agencies outside of Drug Court may be allowed to view certain information but only if given the proper clearance.
2) Case Manager	Information concerning their specific clients
3) Judges	Information on all clients appearing before them
4) Program Coordinator	Information concerning all clients at their particular site; this would include relevant statistical information for that particular site
5) Network Manager	Information concerning all clients on the network

Example:

City One and Two both have Drug Court programs using the new MIS. City One would like the treatment program staff to be able to view limited client information on the Drug Court MIS. City Two, however, does not wish to share information outside their Drug Court program.

With the security design recommended, this access is possible. Here is how it would work: City One's program coordinator would call the network administrator and tell him/her to insert a new user into the MIS with certain access restrictions. The program coordinator would then call the treatment program staff and tell them that they can access the system from their computers using this new account. However, the treatment staff at this site would only be able to access limited information at that program site and would not be able to access any of City Two's client information.

Client information. Another critical component of this recommendation is that client data would only be stored on the network server. This is important because as client information is entered into the system the changes would immediately be saved to the network and the client's information would be updated instantaneously. Thus, the state Drug Court manager would always have access to the most updated information. This can be critical in meeting the information needs required at the local, state, and national level in a timely and efficient manner.

Expansion. Another major benefit of this system is that it is flexible enough to allow for future growth of the Drug Court program. This system would be able to handle Drug Court programs for every single county in the state and only minimal hardware specifications are required at the local level for this system to work. A Drug Court site with an older computer, or one that has little startup money to put into buying a new system, can still utilize and benefit from this system because the system can work on almost any computer. Only minimal hardware would be required at the local level. In addition, the network would allow for different Drug Court sites to use the operating system of their choice—UNIX, WINDOWS98, NT, or OS2.

MIS Overall Goals The Drug Court MIS as presented in this plan incorporates the following, which were described as necessary in Phase I:

- Missed drops and failed drugs screens can be reported in a timely and efficient manner.
- Monthly, Quarterly, and Annual reports can be generated across all sites, or at an individual site with the click of a button.
- A single database can be used to store a chronological history of all Drug Court participant information.
- Judge and Drug Court staff case notes on the database can be searched using key words.
- Links outside of the Drug Court site could be included into the network.

The Kentucky Drug Court MIS will be required to contain information about each participant, including the intake assessment and initial criminal history, program progress, and any client information that would need to be updated (e.g., changes in housing or employment). The MIS would record and document all of this information. In addition, the MIS will be able to provide aggregate and summary information at the individual, program, and state level. At the individual level it is recommended that a report feature be included that would overview one individual's information from inception to whatever point in the Drug Court program they have reached. This information might include such things as groups attended, absences, or instances of tardiness; the number and length of each job the individual had during the program; the number of weeks and days spent in each phase; the total number of sanctions and outcomes; and, the number of positive urine screens. At the program level, summary information could include things such as monthly statistics, the average number of weeks to termination across all of the clients that entered the program, and the caseload for each caseworker. At the state level, aggregate and summary statistics might include information generated across all of the Kentucky Drug Court programs or across rural and urban Drug Court program sites.

Data History. The focus groups and the administrative interviews indicated that most of the client information across all three of the Drug Court sites was in paper form. It will be necessary to enter that information into the MIS to ensure a complete chronological history of all Drug Court participant information.

Implementation. Several steps are recommended for implementing the MIS. First, a newly developed MIS should be beta tested at one site. An adequate beta testing period is important to ensure that the software is user friendly and meets all of the Drug Court program's needs. Second, a manual should be developed. Third, extensive training is recommended. The manual and training are discussed below. Fourth, the problems encountered in implementing the MIS for the first 3-6

months should be documented. Training and manual updates should be aligned with any changes made during beta testing and the first six months of MIS use.

Training. Computer training will accompany the installation of a new MIS. Drug court staff would need training for general computer literacy as well as for the Drug Court MIS. The trainer should be responsible for providing the initial training to all staff as the system is installed. There should also be consideration of at least annual refresher training or at least refresher training as the need becomes evident.

Training should be provided on site. As the new MIS is installed, all existing Drug Court staff should be trained in entering data into the system and in generating reports from the system. As new staff are hired on site training should be provided to them as part of their normal orientation to Drug Court procedures. If new capabilities are added to the MIS training should be provided to all staff before activation of the program enhancements. If it becomes evident from recurrent problems at a specific site or throughout the system that refresher training is necessary it should be provided in collaboration with the program directors of the various Drug Courts.

As an aid to training, a series of user manuals should be developed. These manuals should be specific to individual users access levels and explain all possible menus a user might encounter in his/her experience with the MIS. The manual should be graphic rich and should not rely solely on narrative to explain MIS operation and use. The manuals should be constructed so that they are easily updated and should be updated at least annually and/or as systems enhancements are added.

All information contained in the manuals should also be made available on screen through the MIS help function. Help screens in the system should contain all text and graphics contained in the current version of the manual for each user. Help screens should be available through the help function of the program, providing the help file contents, index, and search capabilities. Help should also be available through a context sensitive help system, which allows for a brief explanation of the use of all icons and menu commands available on a page of the program and can be accessed by pointing to the item of concern and clicking with the right mouse button.

Establishing a "help desk" for the system may also be critical in the success of implementing and maintaining the system. If a user cannot resolve a problem by recourse to the manual and the help system, he/she can telephone the help desk to walk him/her through the problem. There would be some value in considering the use of a program called "PC Anywhere." This program would allow the Systems Administrator to take control of any personal computer in the network and use it as if it were in front of him/her. This would allow the Systems Administrator to demonstrate directly to a user at a distant Drug Court program how to perform some operations in the system without the System Administrator ever leaving his/her office. This software would also be useful in allowing the Systems Administrator to do certain tasks to maintain the system without physically traveling to the location where such work was required.

The following is a case study designed to illustrate how the MIS would interface with the Drug Court program staff and clients as well as the information needs.

Case Study—How the MIS interfaces with the user and the client.

Russ is a 25-year-old African American male who has been charged with Possession of a Controlled Substance, Cocaine, 1st offense. The Judge in Russ's case thought he might be a good candidate for the Drug Court program and referred Russ for assessment. A Drug Court staff member, Lolita, entered Russ' name as a new referral into the MIS and requested a criminal history from the AOC using an automated email feature, which automatically notifies AOC of all the pertinent information and the formal request to conduct a criminal history check—with the click of a button. This report was then faxed back and showed that Russ had no prior record as an adult and was entered into the Drug Court MIS. Lolita then assessed Russ in jail using the ASI on her laptop. Lolita explained all of the information about Drug Court and had Russ sign an agreement of participation. When Lolita returned from the jail, Russ' intake assessment (ASI) was uploaded into the Drug Court MIS and a report was printed for the file. Lolita entered into the computer that the Judge referred Russ to the Drug Court program and that Russ signed the participation agreement.

Russ was sentenced to 5 years and was probated for 5 years on the condition that he successfully completes the Drug Court program. Russ indicated that he had never worked a job, did not graduate from high school, and has 3 children with three different mothers. The ASI report indicated that Russ has problems with crack cocaine. The report also indicated that he began using crack about 5 years earlier and started using alcohol and marijuana on a regular basis at the age of 11 and by 14 he was smoking and drinking on a daily basis.

Upon entering the program, Russ and his assigned caseworker, Ralinda, developed an individual program plan. Ralinda was notified of her new client from an email sent by the program coordinator. Ralinda monitored Russ' program participation on a daily basis. She entered his group attendance, his AA/NA attendance verifications, Drug Court session attendance, journal assignment completion, and compliance with any necessary referrals. The jail staff conducts the Drug Court program random drug screens. Each day the jail emails drug screen results for the Drug Court program to the Drug Court program site. The results are then automatically downloaded into the database—providing updated information accessible by Drug Court staff.

In addition, Ralinda is notified of the drug screen results for each of her clients tested for that day. Russ also owes money for court fees and child support. An email from the court clerk's office is sent with payment information and the database is automatically updated in the same manner that the drug screens are sent. Ralinda knows that the confidentiality of all of her clients is protected because no other caseworker or outside agency has access to her files in the MIS.

After three weeks in the program Ralinda decides to find Russ employment. She does this by following the links on the Drug Court MIS to the Internet and then performing a job search on jobs close to Russ's home. Ralinda's Internet search finds Russ several jobs to apply for and provides him with the necessary information to do so. Russ did obtain a job at a local factory. Every week Ralinda calls to verify his employment and enters the verification and results of the verification into the computer.

Each week, Ralinda is required to provide a report for each of her clients to the judge. Ralinda can look at the court docket each week, which is automatically generated, to determine

when Russ is scheduled to appear before the court. Once she sees which clients are scheduled that week she can request their weekly report, which includes information such as the number of drug screens and drug screen results, group attendance and case notes with the click of a button on the computer screen. The report is then printed for the judge to read. In addition, the judge can access Russ's client information from her computer if she so desires. Once, the judge was interested in how long Russ had been on his job and neither Russ nor Ralinda could remember the exact time. The judge accessed Russ's employment history from her desk and discovered it had been exactly 2 weeks.

At the end of the month, Ralinda's Drug Court coordinator generates the program statistics for the month by clicking on the program statistics button and printing the report. Even though Ralinda entered information about Russ the hour before the coordinator requested the statistical report, the report includes the latest information about Russ.

Russ is promoted to Phase II after seven weeks in the program. Ralinda updates the computer information by noting the date he was promoted. She continues to monitor his program progress on a daily basis including meeting attendance, employment and housing verification and changes, referral compliance and other program requirements. Urine screen results and payments are continually and automatically updated from each of the respective offices. After 2 months into Phase II of the Drug Court program Russ relapses and has a positive urine result for cocaine. The judge, after hearing about Russ' relapse, requests a report of Russ' program participation since he entered. This report is a full history of Russ' progress through the program, including the total number of positive drug screens, the number of times Russ missed a group or was late to a group, and Russ' employment progress since beginning the program. After reviewing Russ' program progress and hearing the details of the relapse from Russ the judge decides to sanction Russ with three days in jail. Russ is also sent back to Phase I of the program. Russ' relapse, sanction, and demotion are noted in the MIS. Ralinda continues to monitor Russ progress through the program using the MIS.

Meanwhile the Drug Court manager is interested in examining the average length of time in the program before clients terminate and characteristics of those who are terminated in each phase across all of the programs in the state, as well as by the individual program site using the report features available on the MIS. This information can help in determining whether certain services or efforts should be directed at a subpopulation or at a certain point in time for each individual program.

Russ continues through the program and graduates after 20 months. His graduation and other program progress have been tracked through the program. At graduation another criminal history is completed and entered into the MIS. The program coordinator and Drug Court manager can provide recidivism reports and other information by site or across sites for statewide estimates quickly to interested elected officials including the number of active clients, number of graduates, and number of clients terminated. All graduates in the state are tracked for a period of five years in this manner. This provides quick and low effort outcome evaluation information.

Technical Overview

Three servers provide the core of the recommended Drug Court MIS. These servers would be stationed at a central location where they would control the network.

- Server one will be a Microsoft SQL server
- Server two will be a Microsoft Exchange server
- Server three will be a Proxy server

The SQL server will provide the relational database used to store the Drug Court client and program information. This server will also support the user interface allowing Drug Court staff to access the client database using the MIS program.

The Exchange server will provide email to all of the Drug Court workers. This server can also be used to tie into Microsoft Outlook, which will be installed on the personal computers. Using this tie, a variety of files can be shared. Examples of files that can be shared include a MIS users' manual and a calendar containing all the day's events.

The Proxy server will allow users on the Drug Court network to connect to the Internet. The Proxy server will also be used to screen email and web pages for possible contaminants. This way the system will automatically scan to ensure no emails with viruses enter into the Drug Court computer environment.

These three servers will be connected to a router. This router will connect the servers to the routers of the local networks. The routers will be connected through the use of frame relays. A frame relay is a connection between the central router and the router at each site. This connection will remain constant and ensure quality data transfer. At each site a hub will be connected to the router. This hub will connect the local computers together using Ethernet cable, which will provide faster, uninterrupted, and more reliable Internet access. This completed connection will allow Drug Court staff to have complete access to the new MIS, the Internet, and email.

This design has several benefits over other options for designing a statewide MIS. First, modems are not used to connect to the network, so the only recurring costs will be the frame relay connections and the connection to the Internet. Second, by using both the Microsoft Exchange Server and the Microsoft SQL, the two servers can work together to produce a daily schedule and docket for Drug Court staff. Third, the exchange server will allow both inter-departmental email and email from outside the system. The Proxy server will enable Drug Court workers to access technology outside the Drug Court office such as the Internet for state and national information from outside agencies such as UK. Finally, the Proxy server can also be used to restrict access to certain sites on the Internet—for example, pornographic sites can be blocked for legal reasons—and can monitor Internet traffic, so that if desired the network administrator can know who was on the Internet, how long they were there, and what they were viewing.

Drug Court MIS Specifications

Software. The engineered software components of the project consist of two levels. First is the database and second is the user interface.

Database. Databases are programs used to store and maintain data. The Drug Court MIS would benefit from using level one of the software because it can allow the annual, quarterly, and monthly statistics to be calculated automatically. It also provides access to any subset of data recorded. Before the database becomes operational it will be important to move all existing data to this new database. This will most likely result in a large amount of data entry, but some of the previous data on a computer might be able to be added into the database.

Automating weekly, monthly, quarterly, and annual statistics will be a major benefit of the new MIS:

Currently, when monthly statistics are needed a Drug Court caseworker goes back through all of the files and calculates each statistic by hand. Then, after retrieving all of the statistics, they must enter them into the correct form.

Using the MIS, this same person can simply click a button on the computer and then print out the report.

Although there are many database programs available that would work for the Drug Court MIS, Microsoft SQL is recommended. Of the available database options, SQL is relatively easy to use and more powerful than the other options, including Access. One of the main advantages of using Microsoft SQL for the Kentucky Drug Court MIS is that Access has limitations in terms of the amount of data that can be stored. The Access database is utilized by most of the surveyed programs. Another difference is that the Kentucky Drug Court MIS is conceptualized as a statewide system. Thus, it is important that the system be able to handle as many Drug Court program sites as are available. Access may limit the capability to handle all possible sites.

In addition, there are many variables the database will be required to incorporate as Table 6 shows.

Table 6. Critical Data Elements

Data Fields
Intake variables (e.g., referral sources, demographic information, ASI) each time an ASI is given a separate record will be kept. Each ASI reports will also need to be viewable as a whole document.
Variables entered multiple times creating a separate record each time one is entered, e.g., program progress
Output variables for the Caseworker—weekly statistical reports
Output statistics for the Program Coordinator or Drug Court Manager—monthly, bi-annual, and annual statistical reports

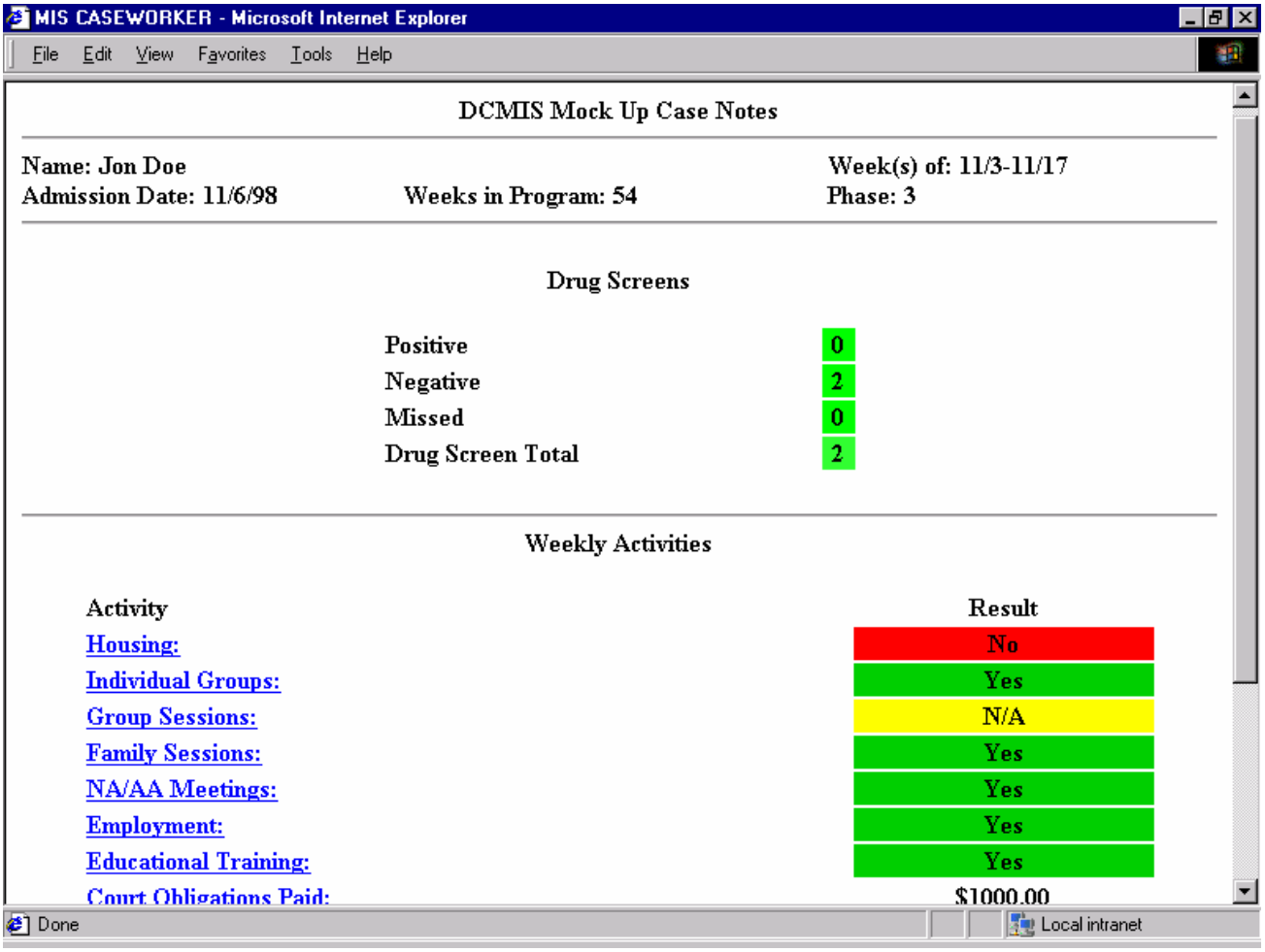
User Interface. The second software level is the user interface—the caseworker, coordinator, or manager input environment. This interface can be written in any number of languages. Possibilities include Visual Basic and HTML, Java and Java Script, as well as Cold Fusion. Cold Fusion is recommended because it is an application that works well with databases. It will allow the program to develop an interface that can access the database and is easy to use. An important function of the software will be to make it generate the forms already being used by Drug Court staff presently. Doing this will save staff time. Staff will be able to easily print forms containing all of the necessary information rather than filling out these forms by hand.

Forms the system, as designed in this plan, could include:

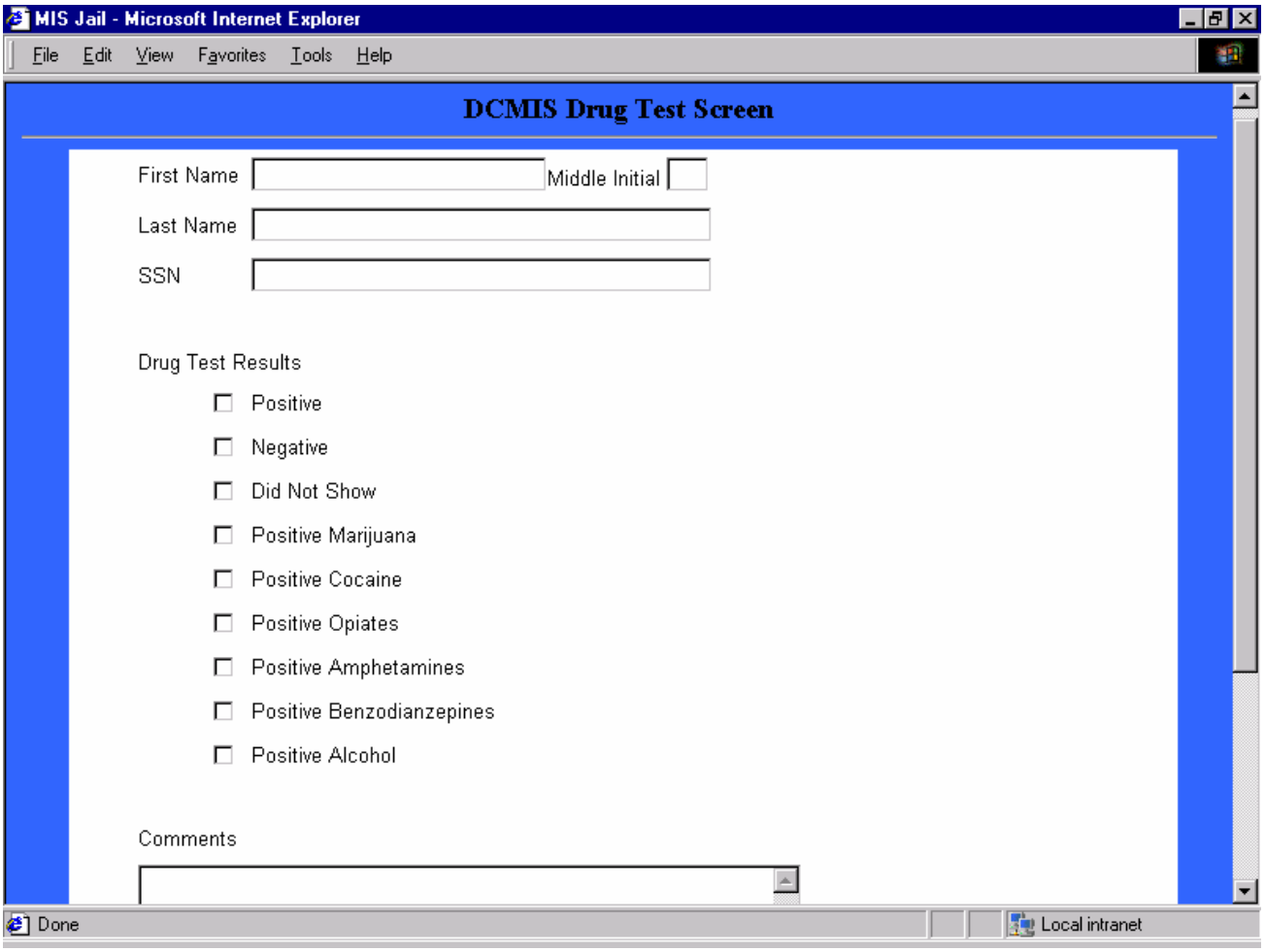
- All statistical reports
- Drug Court staff case notes
- Lists of who is appearing in court on a given day
- Forms notifying clients of upcoming court dates
- An overall report highlighting a participant's history in the program
- An ASI report

The recommended user interface will be easy to use and limit the possibility of error. In order to make the interface easy to use it will be navigable with the mouse while providing a help button on each form. In order to limit the possibility of error as a caseworker pulls up a client, as much of the information as possible should be entered using push buttons or check boxes. A sample user interface is provided.

Here is an example of the Case Notes Screen.



In addition, user interface software will be written to allow the location administering the drug test, to email their results to the Drug Court. This will keep outsiders off the network while still allowing them to insert data. This ensures data security and keeps data current. A possible interface, which would accomplish this, is shown below.

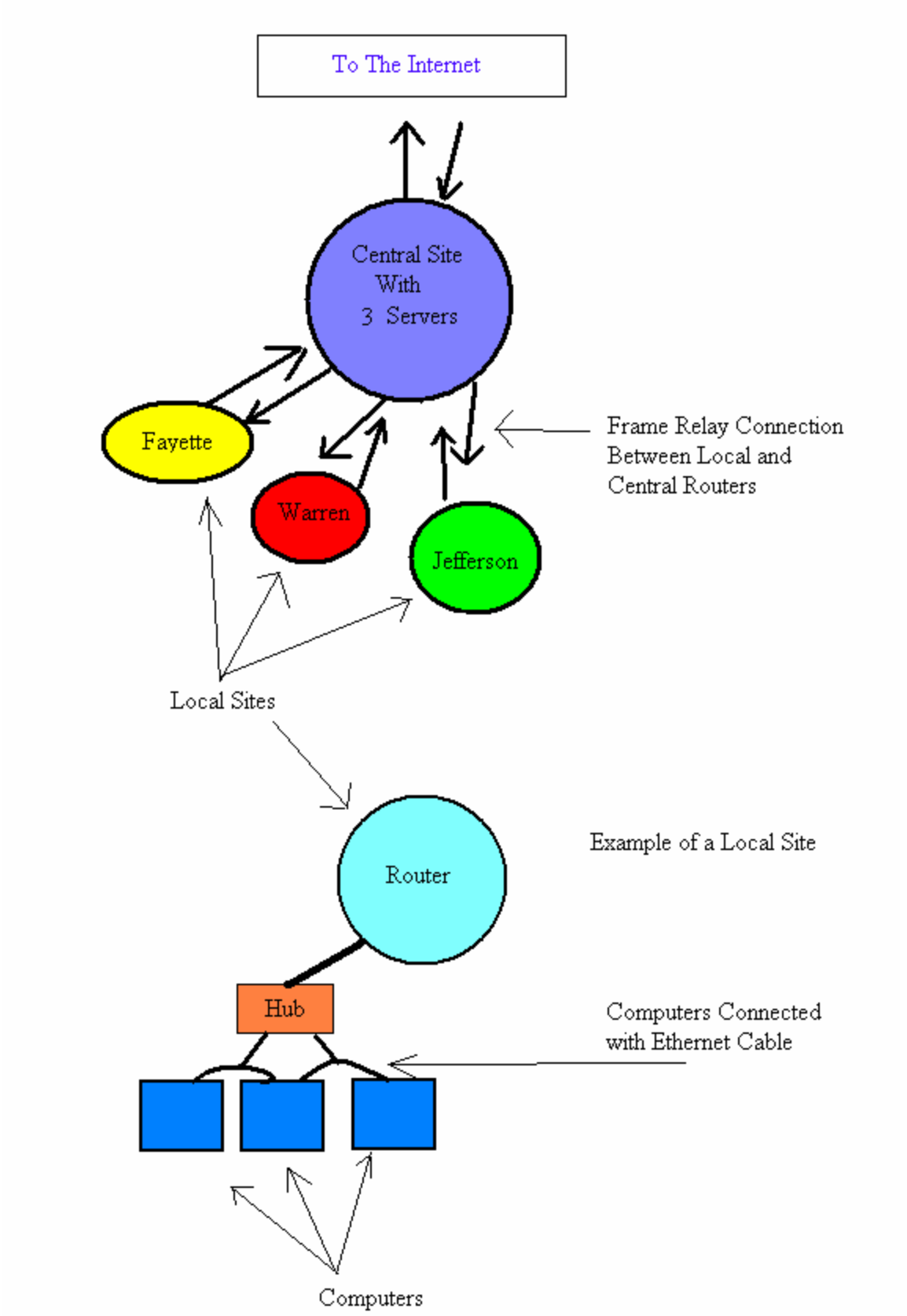


The remaining software must be purchased by the state. This will include a license for Microsoft Exchange, Microsoft SQL, and a Proxy server.

Hardware. The hardware includes personal computers, servers, and the necessary connections. The personal computers can be basic, should use a Celeron processor, be net-workable, and be equipped with a web browser and Office 2000. A net-workable printer will be necessary for every four computers. One potential option would be the Lexmark Optra En+. This printer comes net-workable and can be controlled from a remote site. For example, if the printer malfunctioned or went off line the Network Administrator could correct the problem through the Drug Court network and would not have to physically be present to fix the problem.

There are many types of servers that could be used. The three servers should be operating with a NT operating system. The servers should have at least 128megs of ram and 30gigs of hard disk space. Server prices may vary, but a good choice would be to purchase mid-ranged servers. This would allow for future expansion and a smooth running network.

The network specifications will be limited to three sites and one network center. The main router will need to handle a connection to the Internet, a connection to three servers, and connections to the three Drug Courts. For the connection to the Internet, a T1 will most likely be needed. A T1 is a connection that allows a data transfer rate of 1536k per second. The reason such a large connection is needed, is that this will be a bottleneck for the network. The bottleneck will occur because all the Drug Court sites will be accessing the Internet through this point. Thus, to allow for future expansion a large connection should be used. Connections to the other networks should be 56k frame relay. These connections will be sufficient because the type of data being transferred will be limited and the only time the network should experience any type of lag is when multiple users are trying to access the Internet. At each site the router will be smaller and it will be connected to a hub. This hub will then be connected to each of the personal computers. Reoccurring system costs will be the connections between the computers. A 56k frame relay connection will be used to connect the sites and the server. The final reoccurring cost is the T1 connection to the Internet. Below is a diagram showing how the proposed system would be set up.


To The Internet
Central Site
With
3 Servers
Fayette
Warren
Jefferson
Frame Relay Connection
Between Local and
Central Routers
Local Sites
Router
Example of a Local Site
Hub
Computers Connected
with Ethernet Cable
Computers

Expansion. There are multiple ways to expand this system. These expansions can be done at a minimal cost and ensure that the new MIS can be used for a long time. This system will be able to sustain the Drug Court program and any potential growth and expansion needs for several decades.

One type of expansion would be adding a new Drug Court program site. This could be accomplished with the following approach:

1) Make sure the new site has personal computers capable of viewing the database.

2) The frame relay connection needs to be established to the new personal computers.

3) The new site administrator would contact the network administrator and request an account and then purchase the necessary software licenses.

4) The site administrator would add the case managers and judge to the system.

5) After receiving proper training the new site could use the MIS.

A second type of expansion would be adding a new information field, variables, or set of variables that were not previously needed. To add variables or information fields the following would need to be done:

1) The network administrator would add the variable to the appropriate record.

2) The network administrator would set up any new queries that are needed.

3) The user menus needed for the new variable would be added.

4) The new menus would be linked to the to the previous menus.

Example:

New City would like to open a Drug Court account on the Drug Court MIS, but they would like to make use of their old computers.

In order to accomplish this they would first contact the network administrator who makes the necessary system changes. They would then acquire a hub and connect their computers. The hub is then connected to a router, which is connected to the Drug Court MIS. Thus, even though they are using their old computers the network works. It should be noted, however, that some software upgrades might be needed. This would occur if New City's computers did not have a web browser.

Summary of Phase II Results

Phase I of this report examined different Drug Court programs management information systems (MIS) as well as the needs and concerns of three Kentucky Drug Court programs. Phase II of the report then developed a plan for implementing a Kentucky Drug Court MIS.

This report describes a state-of-the-art system designed to meet both the current and future needs of Kentucky's Drug Courts. This system will be based on Internet technology with special attention given to expansion and ease of use. It will consist of three servers and will allow all client information to be stored, statistics to be easily generated, and will provide access to interdepartmental email.

The proposed Drug Court network will include three servers that will: (1) Operate a database that will compile all client information; (2) Provide Internet access to allow Drug Court staff access to local, state, and national information relevant to the Drug Court program; and, (3) Provide email for intra-staff communication as well as communication with staff from external agencies. The Drug Court staff would access these servers through personal computers.

Using the recommendations for the Kentucky Drug Court MIS will provide four main benefits: (1) Client data and confidentiality will be secure; (2) Client information will be updated instantaneously; (3) This plan will allow for easy and efficient expansion with little cost at the local level; (4) This plan meets the overall goals of the MIS found in the literature review, national survey, focus groups, and administrative interviews.

One of the critical components of this recommendation is that one server will be devoted strictly to client data. In addition, security of the database will be handled at multiple levels. Level one will be the firewall, level two will be the proxy server, and the final forms of protection will be access levels. Another important component of this plan is that client data will be stored on the network server. This is critical because as client information is entered into the system the changes will immediately be saved to the network. Thus, all client information will be updated instantaneously. This network will be flexible enough to allow for future growth of the Drug Court program at minimal cost.

PHASE III

Management Information System Implementation

Implementation Overview. Once the research and development team and AOC approved recommendations, regular meetings were established between local program representatives, AOC, and the research and development team. These meetings allowed for a collaborative approach to the MIS development process. One of the first tasks was to develop a timeline, which outlined the major tasks needed to complete the project (see Appendix H). This timeline provided an overview of the MIS project and allowed progress to be measured at regular intervals. In addition, the timeline facilitated communication between programmers, evaluator, Drug Court program staff, and AOC. This timeline was based on a project start date of March 1, 2000 and also assumed that AOC fulfilled their task responsibilities parallel to this timeline including:

AOC Task Responsibilities

- Providing cooperation and access to criminal justice databases using an email media to request criminal histories and to fulfill the request.
- Purchase of hardware (including desktop PCs, laptops, servers, printers, and any other needed hardware) as specified in the MIS Recommendation report.
- Installation of all hardware.
- Testing and maintenance of all hardware.
- Purchase of software and licenses for each site including windows 2000, MS Office 2000, MS SQL Server 2000 , and an email program.
- Installation of windows, MS Office, and email program.
- Provide technical assistance and maintenance of windows, MS Office, and email program.

Dr. Logan supervised the development of the KDC-MIS project. The supervision included ensuring meetings were set at regular intervals, ensuring ongoing communication between program staff and programmers, and in overseeing the development and timeline of each task specified. Each task listed in the timeline was approved by the Drug Court program and AOC before proceeding to the next task.

Deviations from Recommendations in Phase II

Phase I of this report included extensive documentation of information gathered concerning Drug Courts in Kentucky and throughout the United States. In Phase II, this information was used to develop recommendations for a MIS for Kentucky's Drug Court Program. Phase III was the implementation of the MIS stemming from the recommendations made in Phase II. Despite this extensive preparation there were deviations from the recommendations.

Hardware/Software Changes

At the time the recommendations were developed for the MIS the Kentucky Drug Courts were not networked. Because the Kentucky Drug Courts were later networked, the KDC-MIS no longer needed to provide email and Internet access. This change allowed for each Drug Court to have its own database as opposed to sharing one statewide. In addition, transferring files across a large network was no longer necessary thus minimizing the need to use Cold Fusion.

System Changes

The original MIS plan called for only one client database to be used across the state for the Drug Court MIS. However, it was decided that each site would have a server. This improved our database access time and allowed each site to run the MIS more efficiently. However, each site having a server created a problem when compiling statewide statistics because the sites were not all connected. To overcome this problem a rollback procedure was developed where each database is copied on a regular basis, and then stored on a statewide database which would be used to generate all statewide reports.

The plan in Phase II allowed for easy expansion because no new hardware was needed other than and internet ready PC. However, the current implementation plan will require a server in each site.

There were a few other minor changes to the system design. For example, the initial MIS plan indicated that there should be a case note search capability. After the initial development it was determined that a sorting feature and ad-hoc reporting would be more beneficial to program staff. These features are described below.

Timeline

The overall timeline is presented in Appendix H. This section describes each task listed in the timeline in detail.

1) KDC-ASI Intake Assessment Automation

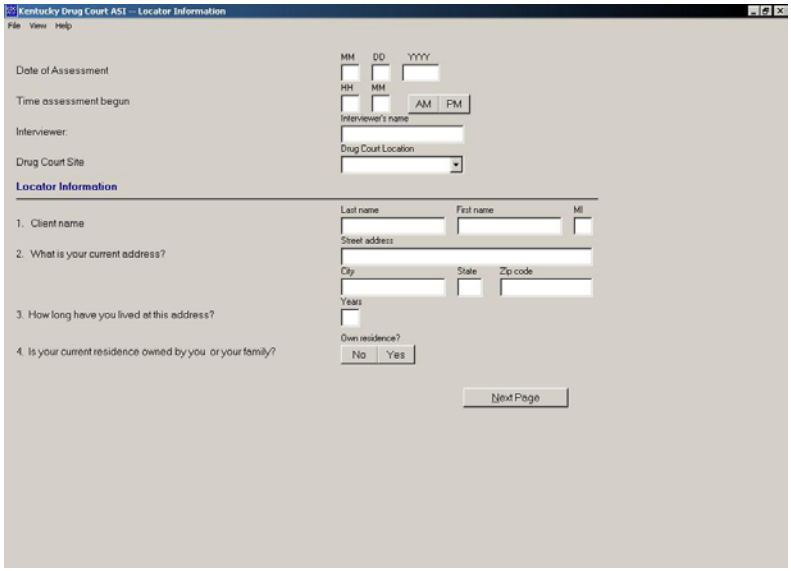
One of the first steps Drug Court program process is to assess an individual to ensure eligibility for the program. The assessment generally begins with a standardized intake assessment. However, there was no assessment that met the needs of the Kentucky Drug Court programs necessitating the adaptation of the Addiction Severity Index. The Kentucky Drug Court-Addiction Severity Index (KDC-ASI) was adapted from the following sources:

- McLellan, A., Luborsky, L., O'Brien, C., & Woody, G. (1980). An improved diagnostic instrument for substance abuse patients: The addiction severity index. Journal of Nervous and Mental Diseases, 168, 26-33.

- McLellan, A., Kuchner, H., Metzger, D., Peters, F., Smith, I., Grissom, G., Pettinati, H., & Argeriou, M. (1992). The fifth edition of the addiction severity index. Journal of Substance Abuse Treatment, 9, 199-213.

- Brown, E., Frank, D., & Friedman, A. (1997). Supplementary Administration Manual for the Expanded Female Version of the Addiction Severity Index (ASI) Instrument The ASI-F. US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment. DHHS Publication Number 96-8056.

The KDC-ASI was first developed as a paper copy with the new items that the Kentucky Drug Court programs added. This paper form was then sent for several iterations to various program representatives. The paper copy of the KDC-ASI was also actually used in the field. The computerized version was then developed in Visual Basic and created as a stand-alone application. Creating the KDC-ASI as a stand-alone application allowed for the use of the program with or without the other components of the MIS. The automation included the development of KDC-ASI input screens and the generation of comprehensive customized client reports based on the information at intake. Additionally, the data gathered from the instruments can be exported to the Kentucky Drug Court MIS after the assessment.



Screen shot from the automated ASI

The assessment is comprised of nine sections including:

- Section 1: Locator Information
- Section 2: Demographic Information
- Section 3: Medical Health Information
- Section 4: Education and Employment Information
- Section 5: Drug and Alcohol Information
- Section 6: Criminal Justice History Information
- Section 7: Family/Social History Information
- Section 8: Mental Health Information
- Section 9: Interviewer Ratings

The assessment takes approximately 45 minutes to complete. Upon completion of the assessment, the program generates a report summarizing that particular client's responses for each of the nine sections and the interviewer's comments. The program and report were designed for the Kentucky Drug Court Program for three main purposes:

1) To assist in client eligibility assessment
2) To aid in designing individual treatment plans for new clients
3) To measure client progress upon exiting the program

After computerizing the KDC-ASI, the software was beta tested for two months. Three different programs were involved in beta testing the software. Changes were made based on issues identified in the beta testing period. After the beta testing period was complete, the final version of the software was released.

After finalizing the computerized KDC-ASI, a help manual was created (Logan & Messer, 2001). The software, help manual, and hard copy of the instrument (for use of the intake assessment without a computer) were distributed to drug courts across the state for immediate use (see Appendix B for the help manual and C for a paper copy of the KDC-ASI).

2) KDC-AIA Intake Assessment Automation.

The Kentucky Drug Court Adolescent Intake Assessment (KDC-AIA) is similar to the KDC-ASI, but designed for adolescent Drug Court participants ranging in age from 12-to-19-years-old. The KDC-AIA was adapted from several sources to meet the needs of Kentucky Juvenile Drug Court programs. As a part of this assessment, several scales from the Problem Oriented Screening Instrument for Teenagers (POSIT) were included to aid in assessment. The KDC-AIA was adapted from the following sources:

- Brown, E., Frank, D., & Friedman, A. (1997). Supplementary Administration Manual for the Expanded Female Version of the Addiction Severity Index (ASI) Instrument The ASI-F. US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment. DHHS Publication Number 96-8056.

- Kaminer, Y., Bukstein, O., & Tarter, R. (1991) The Teen-Addiction Severity Index (T-ASI): Rationale and reliability. International Journal of Addictions, 26, 219-226.

- Kaminer, Y., Wagner, E., Plummer, B., & Seifer, R. (1993). Validation of the Teen-Addiction Severity Index (T-ASI): Preliminary findings. American Journal of the Addictions, 2, 250-254.

- McLellan, A., Luborsky, L., O'Brien, C., & Woody, G. (1980) An improved diagnostic instrument for substance abuse patients: The addiction severity index. Journal of Nervous and Mental Diseases, 168, 26-33.

- McLellan, A., Kuchner, H., Metzger, D., Peters, F., Smith, I., Grissom, G., Pettinati, H., & Argeriou, M. (1992). The fifth edition of the addiction severity index. Journal of Substance Abuse Treatment, 9, 199-213. Rahdert, E. (Ed.). (1991). The Adolescent Assessment/Referral System Manual. DHHS Pub. NO. (ADM) 91-1735. Rockville, MD. National Institute on Drug Abuse.

The KDC-AIA assessment is a completely automated Visual Basic Program consisting of twelve different sections and an optional parent–adolescent assessment:

- Section 1: Locator Information
- Section 2: Demographic Information
- Section 3: Medical Health Information
- Section 4: Education/School Information
- Section 5: Employment Information
- Section 6: Drug and Alcohol Information
- Section 7: Criminal Justice History Information
- Section 8: Family Information
- Section 9: Social Information
- Section 10: Mental Health Information
- Section 11: Client Strengths Assessment
- Section 12: Interviewer Ratings

Upon completion of the assessment, the program generates a report summarizing the client's responses.

An optional parent questionnaire was also developed. This questionnaire can be used to assess the extent to which the family feels the adolescent has substance abuse problems. The parent questionnaire includes the Problem Oriented Screening Instrument for Parents (POSIP). The parent questionnaire is not computerized and must be hand scored.

The program and report were designed for the Kentucky Drug Court Program to complete three main purposes:

(1) To assist in eligibility assessment for Clients between the ages of 12 to 19 years old;
(2) To aid in designing individual treatment plans for new clients; and,
(3) To measure client progress upon exiting the program.

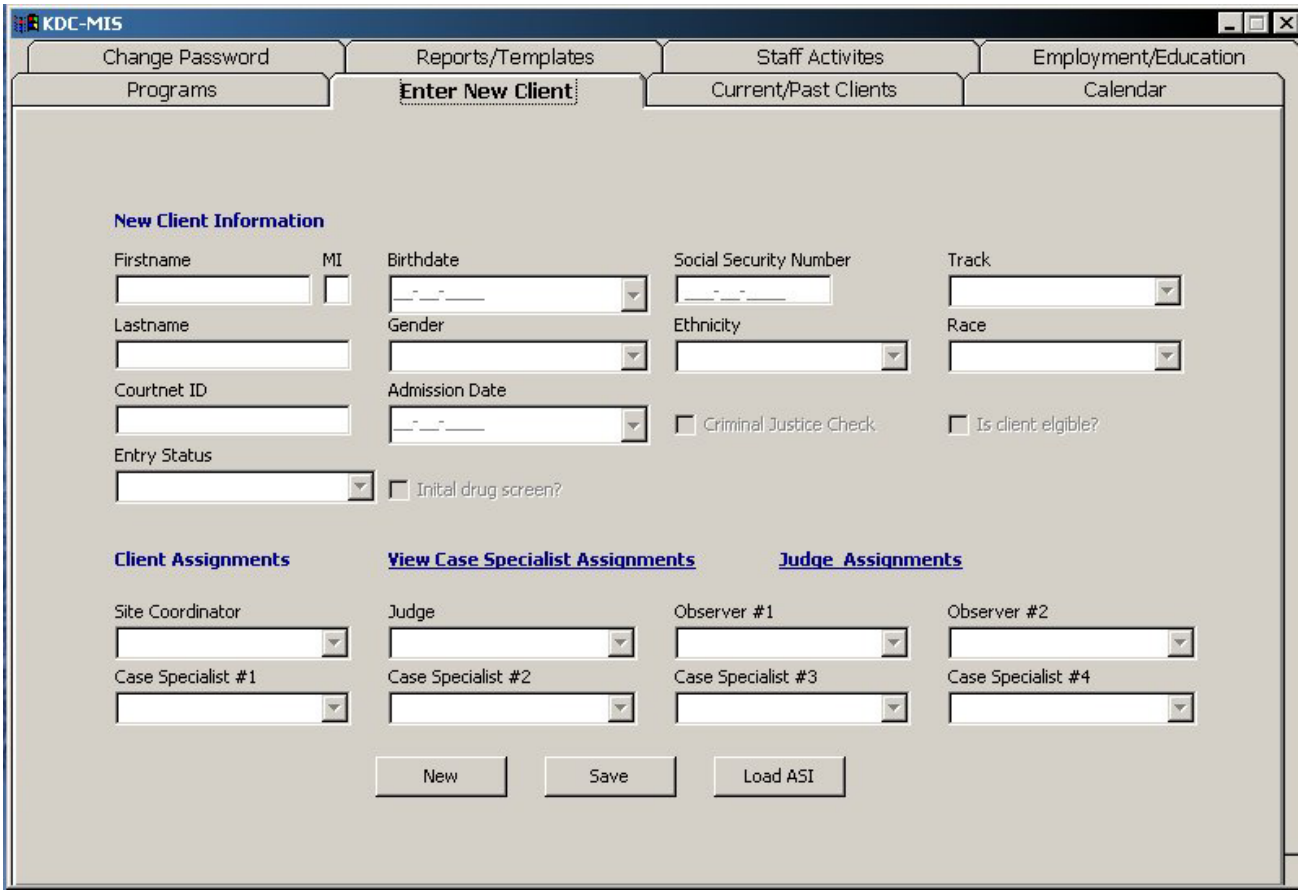
The KDC-AIA program was designed as a component of the Kentucky Drug Court Management Information System. The data collected using the KDC-AIA can be exported to a database. In this case the AIA will begin a new client file in the overall Drug Court MIS. However, the KDC-AIA can also be used by itself. More information can be obtained about the KDC-AIA and the parent questionnaire by consulting the KDC-AIA manual (Logan & Messer, 2001).

After computerizing the KDC-AIA, the software was beta tested for two months. Three different programs were involved in beta testing the software. Changes were made based on issues identified in the beta testing period. After the beta testing period was complete, the final version of the software was released for immediate use. See Appendix D for the KDC-AIA help manual, Appendix E for a paper copy of the KDC-AIA, and Appendix F for a copy of the KDC-AIA Parent Questionnaire and scoring sheets. Appendix G includes paper copies and software for both the KDC-ASI and KDC-AIA. These paper copies of the instruments can be used for duplicating.

3) Intake Status

The next task listed on the timeline was the intake process. After the KDC-ASI has been concluded, staff must complete the participant's intake status using the Enter New Client tab on the MIS. Clients can be entered into the system two ways. The screen will prompt for whether or not an ASI has been completed for the client you want to enter into the system. If an ASI has been completed, it will be loaded and the program will automatically fill in the indicated information (e.g., gender, race, age, etc). Staff can also enter client information directly into the MIS including the clients name, birth date, social security number, drug court program track, gender, ethnicity, race, admission date, entry status, and CourtNet ID. The user must also indicate whether an initial drug screen has been completed, a criminal justice check has been done, and whether the client is eligible for the program. This data is essential to the MIS because it establishes a client's identification number and allows MIS files to be created for each client. It also is important because it allows the drug court to collect information on clients who where assessed for, but not admitted into drug court. This data can then be used later for evaluations.

Enter New Client Screen:



4) First Level Database Architecture

The First Level Database Architecture required that all variables used in the program be listed and mapped. The database architecture consists of multiple tables, which will store the data for each program, for each client, and for each client activity. All reports and statistics will be generated from the data tables. Systems for the following were also developed:

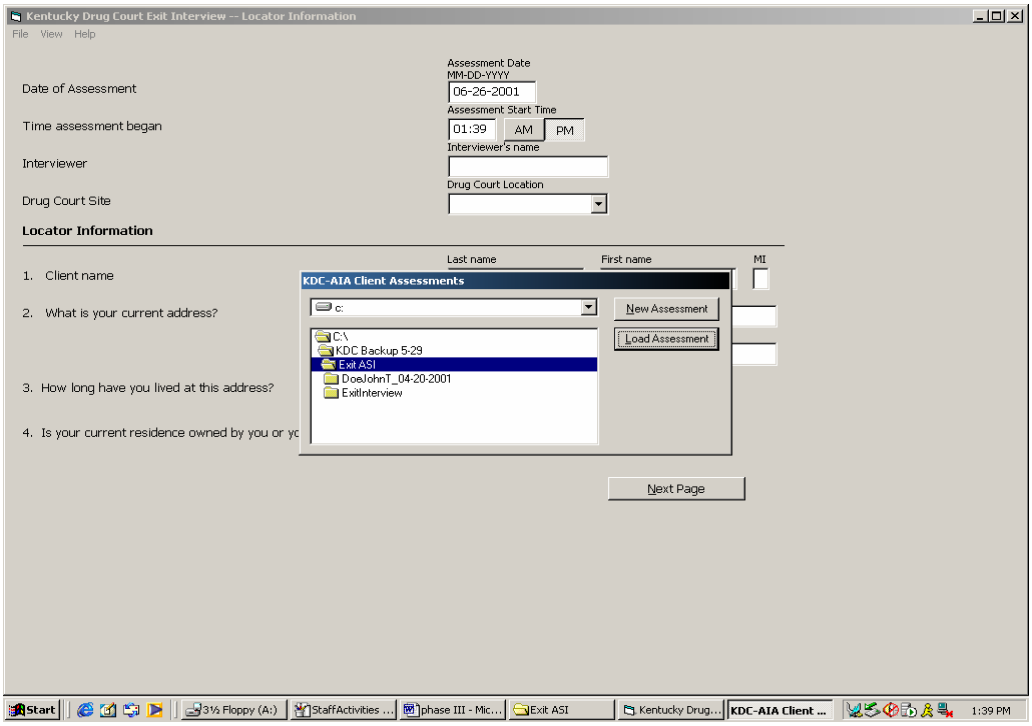
Laptop download procedure. The Laptop download procedure enables staff to download the KDC-ASI results into the MIS, which integrates the two software applications—the stand-alone KDC-ASI and the MIS.

Multiple user access. This enables more than one staff member to use the MIS at the same time. The benefit of this process is that it will eliminate any error that could result from two staff members updating the data of a drug court participant simultaneously. Any change either of the staff members makes while working on the participant's data will be updated instantaneously. This also secures the integrity of the database.

Back up system design. The AOC provided a tape back up system, which will be put into place when the system is fully implemented. This system includes a tape back up at each site as well as one on the statewide server. The system will be backed up every night ensuring that if there is a crash nearly all of the data will be preserved.

5) Exit Interview

The Exit Interview is an application similar to the KDC-ASI. This program can be used to help track clients after they exit Drug court it includes an extensive locator information section. The Exit Interview also contains questions parallel to the KDC-ASI in order to examine changes over time in self-reported status for dimensions including medical health, mental health, education status, employment status, legal status, family and social status, and interviewer ratings. The Exit Interview was also created in Visual Basic.



Exit Interview screenshot

6) Second Level Database Architecture

The Second Level of the Database Architecture used the previously developed tables to generate the statistics and cumulative data that would later be used in the MIS's reports. The specific tasks were partitioned into two main sections:

Overall program operating options. This operation allowed the addition or the removal of clients to specific staff members to build caseloads and the assignment of various security levels to the specific staff member. The assignment of staff to cases also allows for the temporary assignment of clients to staff in case of illness, vacations, and staff turnover. Security levels allow the level of entry or edits for a particular client and also allows viewing of specific clients that are assigned to that particular staff member while not allowing any access to clients not assigned to that particular staff member. All activity on the MIS is time stamped meaning that there is a historical record of all transactions that occur in the MIS and who entered those particular transactions.

Overall program monitoring options. This operation was focused on the design and development of reports used to monitor the Kentucky Drug Courts at the state level. Features were developed to allow for the generation of various statistical reports by county for a selected time period as well as the generation of overall summary reports for a selected time period.

7) Templates

In order to increase the efficiency of the Drug Court Program templates were developed to interact with the Kentucky Drug Court MIS. These templates are forms that the Drug Court uses often and there for were incorporated into the MIS's design to save staff time by allowing them to complete these forms and then print them out. The templates include:

- *Agreement of Participation* – This is a form clients must fill out and consent to before being allowed into the drug court program. It lets the clients know what is to be expected of them while they are in the program.
- *Notice of Eligibility* – Form used to document whether an offender is eligible or not for the Drug Court Program.
- *Referral For Drug Testing* – Form notifying a drug court client of a drug test. This form documents whether or not the drug test is the initial drug test or a random drug test.
- *Individual Program Plan* – Form used by Drug Court Staff to map out a program plan with their client. Individual Program Plans are developed at the start of each phase of the Drug Court Program.
- *Order Referring To Drug Court* – A court order referring an offender to Drug Court.

8) Email Forms

Java email forms were created to allow the Kentucky Drug Courts to interact electronically with outside agencies using email.

Urine screens. In the Drug Court program clients are required to perform a specific number of drug tests. Typically the Drug Court program does not administer these tests. To facilitate urine screen result data collection, a urine screen Java template was developed. Using this template, urine screens can be uploaded onto a personal computer that is connected to the network. Specifically, the urine-testing site can fill out the email form and send it to the Drug Court staff member. Once the message is received the data automatically uploads the information for each specific client listed on the urine screen form. The staff member also will get an email message notifying them that the results have been uploaded and for which client. The information is encrypted so that it cannot be read unless it is read using the KDC-MIS for security and confidentiality purposes.

Client Criminal Justice Information. Kentucky Drug Courts request criminal justice searches from the AOC. Therefore, an email form was developed to save time and provide a hard copy of the material needed. This entails a standardized email template preaddressed to AOC requesting a CourtNet report for a specific person. The staff member needs to fill out the specific information for each request including name, social security number, aliases, and birth date. Up to five individual requests can be made on the same email template.

9) User Interaction

One of the most critical features of the KDC-MIS is the need to track clients through their program progress on a regular and consistent basis. In addition to tracking the client progress, it is important that staff and judges be able to access client progress information quickly and that the information be organized in a user friendly way. In order to make sure the data is accurate, the majority of the information in the MIS is collected through multiple choice combo boxes. These boxes are important because they limit the user responses ensuring that the data they are entering can be accurately classified.

Overview of the KDC-MIS.

After clicking the KDC-MIS icon on the desktop, the first screen that appears is the log-in screen. As stated earlier different user levels of access are available depending on log-in ID. A site coordinator ID will be the KDC-MIS welcome screen. This screen offers the user the opportunity to launch programs outside of the MIS such as Microsoft Outlook, Internet Explorer, Exit Interview and the KDC-ASI. In addition, this screen has eight tabs at the top: Programs, Enter New Client, Current/Past Clients, Calendar, Employment/Education, Staff Activities, Reports/Templates, and Change Password.

The Programs Tab is the first screen which is the welcome screen.

The Enter New Client screen allows the site coordinator to enter new clients into the system. The screen provides an option of loading a completed KDC-ASI and then assigning the caseworker and judge to the client. To aid in the assignment of clients to caseworkers and judges there are pop-up screens which display current judge and caseworker distributions. If a KDC-ASI has not been completed for this client, the coordinator may enter the basic information required for assignment into the MIS and then continue as before. The coordinator can also launch the KDC-ASI program at this time and proceed with completing the intake assessment before assigning the client to a judge or caseworker. After loading the KDC-ASI the coordinator is required to check whether a criminal history has been completed, whether the initial drug screen has been completed and whether the client is eligible for the Drug Court program.

The Current/Past Clients screen provides the user with multiple client lists including current clients, past clients, and declined clients. The initial screen will display the current client list. Past clients include graduates and terminators, and declined clients display those not eligible for the program or those who chose not to enter the program.

When the current client list is displayed the user can select a specific client. Once the specific client is chosen, the demographic information and picture of that client is displayed. Now the user has several options regarding information about that specific client. The user may update any information previously not entered or entered incorrectly for this client.

The user may also change the client phase through promotion/graduation, demotion, removal, or suspension from this screen. The phase change screen requires the type of phase change, date of phase change, and reason of phase change. Comments may be entered into this screen as well (e.g., more specific details of the incident that led to a demotion).

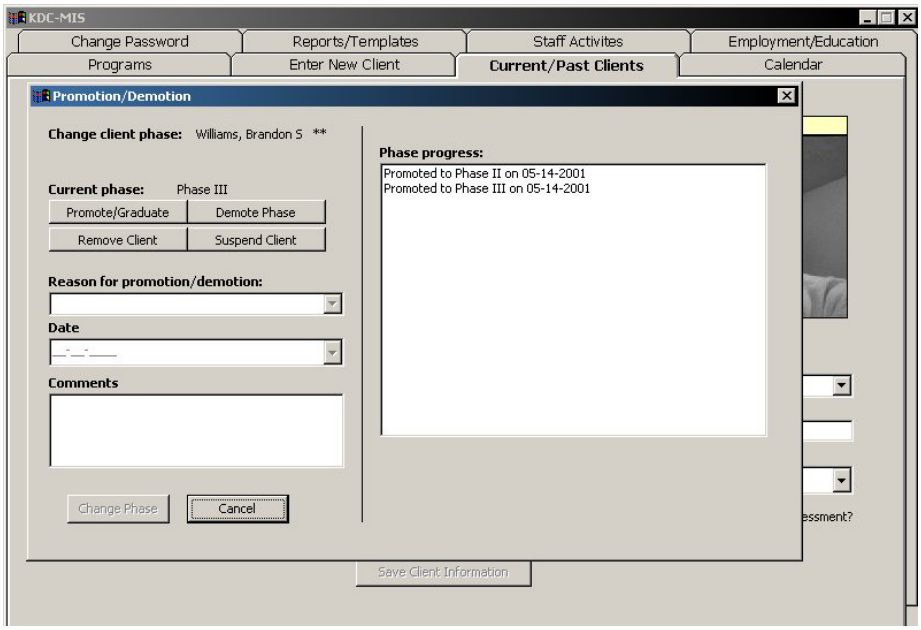
Throughout the KDC-MIS various dates are required for data collection. Pop-up calendars are provided for user convenience and date accuracy wherever dates are requested.

The user may want to enter additional arrest/charges the client received while in the Drug Court program or after graduation/termination. This screen allows the user to enter type of charge, severity of charge, number of counts, and date of charge.

The user may want to enter the client program requirement information. This screen allows individual program sites the flexibility to individualize requirements for each specific client. The first thing the user must do is specify the next court date for this client using the New Court Date button. Then, the user can specify the number of drug screens, the number of individual sessions, the number of group session, and the number NA/AA sessions a specific client must complete before his or her next court appearance. The user can then enter results for each of these requirements when they are completed by the client. If the requirements are not completed within three days of their next court date, that client name will be highlighted with asterisks in the current client list. The user can also enter payments the client is required to make while in the Drug Court program. There are also three buttons to enter housing, employment, and education verifications on this screen. The list below describes each of these functions in more detail.

- *Phase monitoring*. The KDC-MIS enables staff to monitor a participant's progress through the program and its phases. Specifically staff can view a client's activities as they progress through the Drug Court Program. These include: Individual Sessions, Group Sessions, Family Sessions, Drug Test Results, NA/AA Sessions, Payments such as Child Support and Restitution, Housing Verifications, Employment Verifications, Education Verifications, Phase History, and Additional Charges.

Screenshot of phase history:



- *Warning signals*. This software provides staff with updates regarding specific information that needs to be completed for each client. The name of the individual with incomplete information is highlighted with double asterisks on the current client screen. This highlighting is done if the client activities are not completed within three days before the participant's next court session.

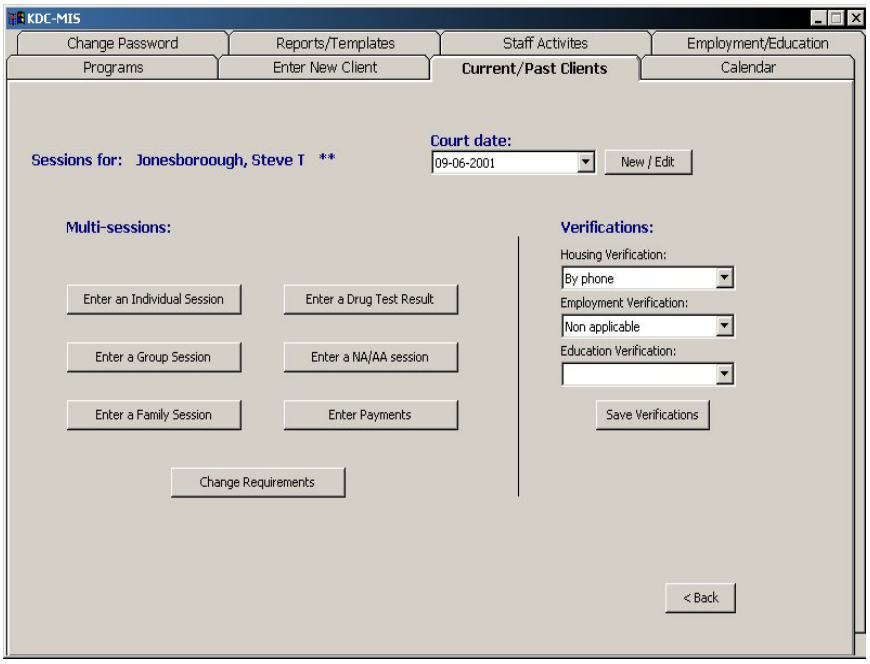
- *Case notes*. A weekly information screen provides an overview of client's progress since the last Drug Court session. Case notes include information on the following

    - Individual Sessions – Tracks each individual session a client was assigned by letting staff enter whether the client attended the session or not.

Example of the Individual Sessions screen:

- Drug Test Results – Tracks the result of each assigned drug screen. Provides staff the options of choosing if the client passed the drug screen, failed to show, failed the drug screen, or tampered with the result as well as what type of drug was detected.
- Group Sessions – Tracks each group session a client was assigned by letting staff enter whether the client attended or not.
- NA/AA Sessions – Tracks each NA/AA session a client was assigned by letting staff enter whether the client attended or not.
- Family Sessions – Tracks each family session a client was assigned by letting staff enter whether the client attended or not.
- Payment Information – Tracks debts and payments a client makes toward specific debts while in the Drug Court Program. Specific debts that are tracked include Court Costs/Fines, Child Support, Restitution, Public Defender Fees, Jail/Work Release Fees, and Sanction Fines.
- Housing Verification – If client is not in custody then housing is verified once per court session either by phone, by site visit, or by records.
- Employment Verification – If client is not in custody then their employment is verified once per court session either by phone, by site visit, or by records.
- Education Verification -- If client is not in custody and is pursuing education then their educational status is verified once per court session either by phone, by site visit, or by records.

Screenshot of Case Notes:



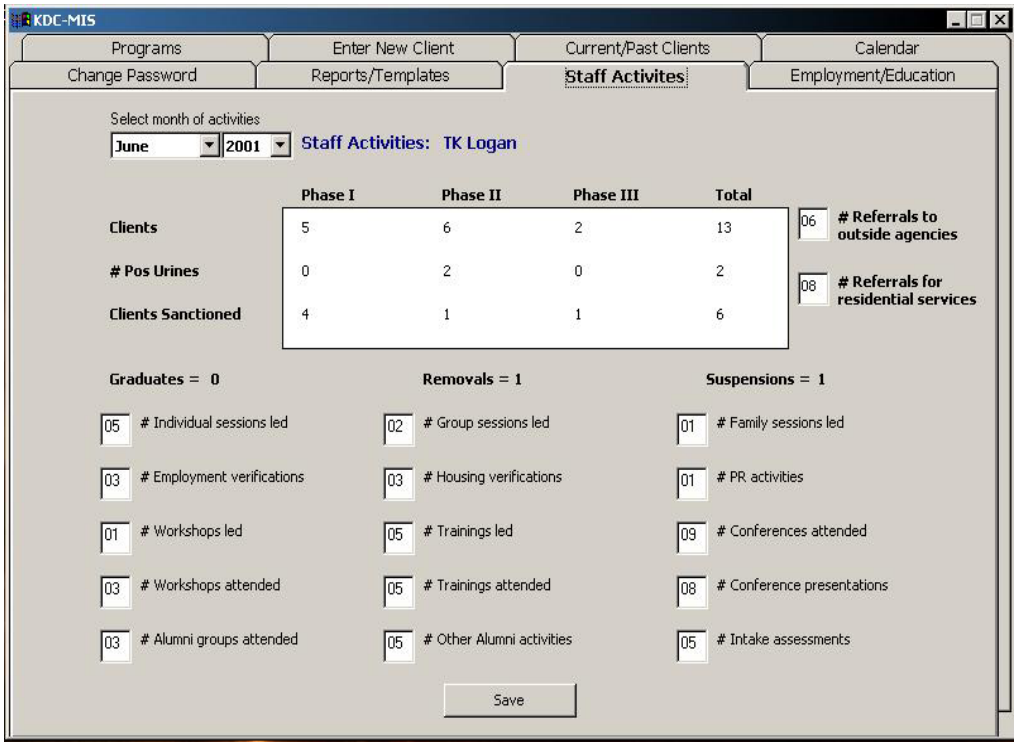
The Calendar screens list the upcoming court dates for each client at that Drug Court program site. Past court dates can also be viewed from this screen. Client lists can by sorted by name and court date. In addition, this screen allows the user to view a list of clients with past court dates by selecting a specific date on the calendar.

The Calendar screen also allows users to view a list of clients and their sanctions by selected date and a list of accomplishments by selected date. In addition to client name and date of sanction or accomplishment the specific sanction or accomplishment are also listed along with the reason for they were sanctioned or rewarded. The sorting feature allows the user to sort these lists using each of the displayed variables.

The Employment/Education screen allows the user to enter employment and education status for each client. This tracks the start date, end date, current status (e.g, fulltime or parttime), place of employment, employer phone number, and supervisor name. This screen will provide a history of employment and education for this each client during the program and can track multiple jobs during the same time period as well. The sorting feature allows the user to sort the employment/education lists using each of the displayed variables.

The Staff Activities screen was developed to monitor staff activity on a monthly basis. This form tracks: the Caseload by phase, number positive Urines by phase, and number of clients Sanctioned by phase, the number of Referrals to outside agencies, Referrals for residential services, Individual sessions led, Group sessions led, Family sessions led, Employment verifications, Housing verification, PR activities, Workshops led, Trainings led, Conferences attended, Workshops attended, Trainings attended, Conference presentations, Alumni groups attended, Other Alumni activities, and Intake Assessments.

Screen shot of Staff Activities



The Reports/Templates screens are discussed below under the Site Reports section (# 11).

The Change Password screen allows the user to change their passwords regularly to ensure client confidentiality.

The caseworker ID level will only allow them to view their assigned clients and the information for their assigned clients. The reports that they generate will be specific only to their caseload as well.

The judge level will only allow judges to view clients assigned to their court. In addition, judges can only view information they cannot add or change information.

10) Sorting Feature

The sorting feature was developed to allow Drug Court staff the ability to easily navigate through the current client lists. It is available on several screens including: the Calendar screens, the Education/Employment screens, and the Payment screens. On the Calendar screens, which track court dates, sanctions, and accomplishments, the feature allows users to sort the client list by client last name, data of sanction, accomplishment, or court date, and actual sanction or accomplishment listed. On the Education/Employment screens the user can sort a by client education/employment start date, type of education/employment, and the status of education/employment. On the Payment screens users can sort by payment type, payment amount, and payment date.

11) Site Reports

Local Site Reports were developed for the Kentucky Drug Court MIS. These were broken into two categories Client reports and Site reports. Client reports are generated for a specific individual client while site reports are generated for all clients at a specific site.

1. *Client reports*: Client reports are reports based upon a given clients activities and action while in the program.

- Case Notes Report. The Case Notes Report was based on a report currently being used by the Kentucky Drug Courts. This report tracks a client's activities from one court date to another. It includes the client's Individual Sessions, Group Sessions, Family Sessions, NA/AA Meetings, Housing Verification, Employment Verification, Educational Training, Drug Screen Results, and all Payments made. The report also includes any comments recorded for each section and any general staff comments.
- Client Historical Report. This is an extensive report detailing a client's entire time in the Drug Court Program. This report was not previously in use and was made possible by the Kentucky Drug Court MIS. The report tracks a client's Phase History, Drug Screens, Individual Sessions, Group Sessions, Family Sessions, NA/AA Sessions, Sanctions, and Accomplishments.

2. *Site reports*: Site reports are generated across all of the clients at a specific program, or can be created after specifying any combination of race, ethnicity, age, gender, and caseworker. The reports are arranged by date can be created for any specified time range. All site reports are generated to report back the total number of occurrences for each field and contain *no* open-end responses unless specifically noted.

- Monthly statistical report The Monthly Statistical Report provides a broad overview of statistics for each site. It contains 21 sections arranged in the following formant;

A. Diversion Track
   1. number of candidates eligible Category I
   2. number of candidates eligible Category II
   3. number of candidates assessed
   4. number of candidates' initial drug screens
   5. number of candidates eligible
   6. number of candidates accepted

B. Probation Track
   1. number of candidates referred
   2. number of candidates assessed
   3. number of candidates' initial drug screens
   4. number of candidates eligible
   5. number of candidates transferred

C. Total diversion and probation candidates accepted

D. Number of participants graduated to next phase
    1. from Phase I to Phase II
    2. from Phase II to Phase III
    3. from Phase III to graduate

E. Number of court sessions
    1. total number of participants attending sessions

F. Number of drug screens conducted

G. Number of participants identified as using based on drug screens
    1. THC
    2. Cocaine
    3. Benzodiazipines
    4. Opiates
    5. Amphetamines
    6. Barbiturates
    7. Phencyclidine
    8. LSD
    9. Methaqualone
    10. Alcohol
    11. Approved Prescription
    12. Other

H. Number of individual sessions

I. Number of group sessions conducted
    1. number of participants who attended group sessions

J. Number of family/support sessions

K. Number of participants referred to outside agencies

L. Number of participants referred to outside agencies for residential services

M. Number of participants employed
    1. part-time
    2. full-time
    3. disabled
    4. homemaker

N. Number of participants in educational pursuit
    1. high school / GED
    2. college
    3. vocational training / rehabilitation
    4. adult education

O. Number of employment / educational verifications
    1. by site
    2. by records
    3. by phone
    4. in custody

P. Number of housing verifications
    1. by site
    2. by phone
    3. in custody

Q. Total amount paid toward court obligations
    1. Court Costs/Fines
    2. Child Support
    3. Restitution
    4. Public Defender Fees
    5. Jail/Work Release Fees
    6. Drug Court Participation Fees
    7. Sanction Fees

R. Total number sanctions
    1. community service
    2. incarceration
        a. weekend
        b. one week
        c. 10-14 days
    1. phase demotion
    2. other

S. Total number of participants re-arrested for new charges
    1. felony
        charge and disposition

    2. misdemeanor
        charge and disposition

T. Total number terminations
    1. failure to comply
    2. new offenses/other charges
    3. administrative discharge/transfer
    4. fugitive

U. Total number of active participants

- Quarterly Statistical Report The Quarterly Statistical report contains all of the same fields as the Monthly Report however it the statistics are provided for a 3 month period.

- Annual Statistical Report The Annual Statistical report contains all of the same variables as the Monthly and Quarterly reports, however it is compiled annually.

- Sanctions and Accomplishments Report The Sanctions and Accomplishments Report contains client sanctions and accomplishments for a specified period of time. It contains three sections:

A. Total number sanctions

1. left to discretion of Judge
2. 2-5 hours community service
3. 5-10 hours community service
4. more than 10 hours community service
5. one weekend in jail
6. one week in jail
7. 10 days in jail
8. 10 days in jail with work release
9. inpatient treatment
10. more intense outpatient treatment
11. extra sessions (group or individual)
12. extra N.A. meetings
13. make up meeting with another group
14. extra assignments and readings
15. cooperate in locating approved housing
16. temporary living arrangements
17. given 1-2 weeks to find job
18. community service until a job is found
19. detention

B. Reasons for sanctions

1. urine tampering
2. positive urine screen
3. missed group session
4. missed N.A. meeting
5. failure to complete assignments
6. failure to complete community service
7. failure to obtain or remain in approved housing
8. loss of job
9. new offenses while in drug court
10. turning self in late to jail
11. failure to appear for court or jail
12. absconding from the program

C. Accomplishments

1. completed GED
2. regained custody of a child
3. enrolled in college
4. completed college
5. technical or vocational training
6. obtained employment
7. maintained employment
8. job promotion
9. drug free baby
10. clean time 1 month
11. clean time 3 months
12. clean time 6 months
13. clean time 9 months
14. clean 1 year
15. completed inpatient
16. completed phase requirement

- Education and Employment Report The Education and Employment Report can be includes education and employment history for specified time period.

A. Number of participants employed

1. part-time
2. full-time
3. disabled
4. homemaker
5. not looking
6. not working

B. Number of participants in educational pursuit

1. high school / GED
2. college
3. vocational training / rehabilitation
4. adult education

- Drug Screens The Drug Screens Report can be generated for any period of time and contains a break down of the drug screens over a user specified amount of time

A. Number of drug screens conducted

B. Number of participants identified as using based on drug screens

1. THC
2. Cocaine
3. Benzodiazipines
4. Opiates
5. Amphetamines
6. Barbiturates
7. Phencyclidine
8. LSD
9. Methaqualone
10. Alcohol
11. Approved Prescription
12. Other

- Verifications The Verifications Report that tracks the number and type of verifications completed for a specified period of time.

    A. Number of employment / educational verifications
        1. by site
        2. by records
        3. by phone
        4. in custody

    B. Number of housing verifications
        1. by site
        2. by phone
        3. in custody

- Payments The Payments Report lists the total amount and type of payments made by clients.

    A. Total amount paid toward court obligations
        1. Court Costs/Fines
        2. Child Support
        3. Restitution
        4. Public Defender Fees
        5. Jail/Work Release Fees
        6. Drug Court Participation Fees
        7. Sanction Fees

- Criminal Justice The Criminal Justice Report tracks all client criminal activities while clients are in the program.

    A. Criminal Charges
        1. Shoplifting
        2. Vandalism
        3. Parole/Probation violation
        4. Drug Charges
        5. Disorderly conduct, vagrancy, public intoxication
        6. Driving while intoxicated
        7. Other major driving violations
        8. Assault or other charges related to domestic violence
        9. Assault not related to domestic violence
        10. Forgery
        11. Weapons offense
        12. Burglary, larceny, B & E
        13. Robbery
        14. Arson
        15. Rape
        16. Homicide/Manslaughter
        17. Prostitution
        18. Contempt of Court
        19. Civil
        20. Other

- Caseworker Activity Report The Caseworker Activity Report is generated for each caseworker every month and contains information about their activities during that month.

    A. Clients

        1. Phase I
        2. Phase II
        3. Phase III
        4. Total

    B. # Positive Urine Screenings

        1. Phase I
        2. Phase II
        3. Phase III
        4. Total

    C. Clients Sanctioned

        1. Phase I
        2. Phase II
        3. Phase III
        4. Total

    D Graduates

E. Removals

F. Suspensions

G. User Information

1. # Intake Assessments
2. # Individual Sessions
3. # Family Sessions
4. # Group Sessions
5. # Employment Verifications
6. # Housing Verifications

H. Activities:

1. # Alumni Groups
2. # Other Alumni Activities
3. # PR Activities
4. # Workshops Attended
5. # Workshops Led
6. # Trainings Attended
7. # Trainings Led
8. # Conferences Attended
9. # Conference Presentations

- Client Management Report The Client Management Report is generated for each caseworker and provides information concerning their current clients.

A. Number of participants graduated to next phase
   1. from Phase I to Phase II
   2. from Phase II to Phase III
   3. from Phase III to Graduate

B. Average time spent in drug court program in ***weeks***
   1. Graduates
      Total Number
      Average Time In Program
   2. Terminations
      Total Number
      Average Time In Program
   3. Active Clients
      Total Number
      Average Time In Program

C. Number of participants demoted to previous phase
   1. from Phase III to Phase II
   2. from Phase II to Phase I

D. Number of client terminations
   1. failure to comply
   2. new offenses/other charges
   3. administrative discharge/transfer
   4. fugitive

E. Number of client suspensions

1. urine tampering
2. positive urine screen
3. missed group session
4. missed N.A. meeting
5. failure to complete assignments
6. failure to complete community service
7. failure to obtain or remain in approved housing
8. loss of job
9. new offenses while in drug court
10. turning self in late to jail
11. failure to appear for court or jail
12. absconding from the program

12) Statewide Reports

A State Reporting Program was developed to work with the Kentucky Drug Court MIS. This program allows users to create reports across multiple sites or across the entire state. These reports include:

- Monthly statistical report
- Quarterly statistical report
- Annual statistical report
- Sanctions and Accomplishments report
- Education and Employment report
- Drug Screens
- Verifications
- Payments
- Criminal Justice

13) Ad Hoc Reporting

The Ad Hoc Reporting feature was created so that the Drug Court programs could customize each of the reports at the local level in order to better meet their specific information needs. Reports are created by specifying any combination of race, ethnicity, age, gender, and caseworker. The reports are arranged by date can be created for any specified time range.

14) Beta Testing

The Kentucky Drug Court MIS was initially beta tested at one site the Fayette County Drug Court. Each Drug Court staff member was individually trained. Staff were then given a two-week period to use the MIS with fictional clients. Using fiction client information provided an opportunity for the staff to experiment with the system with concern about whether or not they made mistakes and provided developers some time to ensure no major changes would be required before entering actual client information. After the two-week period all the Fayette County Drug Court's current clients were entered into the system. For six-weeks, the site was intensely monitored by the MIS developers with communication almost daily and site visits bi-weekly. By providing ample opportunity for communication with the MIS developers and the Drug Court staff allowed for a free

exchange of information regarding any issues with the MIS. Changes were made to the system as indicated by the staff during the beta testing period. After two months, the Kentucky Drug Court MIS was installed in two other drug courts and a one-month beta test period was done at each.

During the beta testing period, many small changes were made to the MIS. For example, a judge caseload screen was added so that the Drug Court coordinator could distribute clients more evenly across judges. The weekly information screen was modified to load the newest court date by default instead of requiring the case specialist to select it every time they enter new information for a client. The current client screen was modified to track which case specialist caseload. There is also a refresh client list button, which reloads all clients assigned to the user.

The drop down calendar was modified to appear wherever dates are entered. This allows the user to either type in the date or select it from a simple a calendar. The calendar control was reworked to display information in a list view that divides information into user specified columns. This allows users to view information by name or date. The new list view controls were added in the employment education section and the client payments screen. The client case notes report has been modified to more accurately reflect only the information needed by the judges for each court session.

Several other minor changes were made during beta testing. The most significant of these is the removal of the comments from the weekly information sessions. The comments were rarely used by the site coordinators and were inefficient. There were several error messages that appeared and minor modifications were made in response. For example, the date feature in the client reports was modified to account for a rare date combination that generated an error. The new client screen ethnicity loaded ASI values incorrectly and has been changed.

15) Technical Assistance

Technical assistance was provided for three months for each of the three sites after the beta testing period was completed. This assistance was provided by phone as well as on-site. The purpose of this assistance was to make sure that any problems not addressed in the beta testing period were addressed.

16) Integrating Existing Clients

To help create an easy transition to using the Kentucky Drug Court MIS a plan for updating back clients into the system was developed. The MIS developers entered all current clients into the MIS, and assigned caseworkers and judges to each client. Staff members could then begin recording information for each of their existing clients as well as new clients.

17) Training

The three initial Kentucky Drug Court MIS pilot sites were each provided with comprehensive training. This consisted of on-site individual training sessions with each staff member, and providing assistance to enter all current clients into the MIS. In addition to this two statewide training sessions were conducted. Training was then done for the Kentucky

Administrative Office of the Courts (AOC) staff who will be responsible for Technical Assistance on the MIS in the future.

18) KDC-MIS Help Manual

After completion of the MIS an extensive help manual was developed. This manual was designed to provide instructions on each of the major MIS components and contains many examples and pictures. The manual is available in Appendix A.

19) Satisfaction and Evaluation of the MIS

Satisfaction and system evaluation assessment was conducted through consistent meetings with key stakeholders, extensive beta testing and technical assistance at the local level, and through statewide trainings. Every six weeks throughout the duration of this phase the Drug Court program representatives and the development team met with AOC. In addition, bi-monthly meetings were held with a small group of Drug Court program representatives, and quarterly meeting were held with a large group of Drug Court program individuals. Two statewide trainings were held to provide an overview, to obtain statewide feedback regarding the system, and to provide training on the completed components.

20) KDC-MIS Statewide Help Manual

After the completion of the Statewide Reporting Program a Statewide Reporting Help Manual was developed.

21) On Screen Help

An on screen help system was developed for the Kentucky Drug Court MIS in order to provide users with help while they were using the program. The on screen help is based on the Kentucky Drug Court MIS Help Manual (see Appendix A). The on screen help is located online at www.messertechnology.com/kdc_mis/ . By putting the help system on line it will be easier to update and allow all sites to view the latest information available.

22) Final Report

The final task on the timeline is the final report detailing the background work, the initial MIS recommendations, and the development and implementation of the KDC-MIS. This was completed in November, 2001.

Summary of Phase III Results

Phase III, the development and implementation, was the last phase of the KDC-MIS project. Over a 17-month period the recommendations from Phase II were modified to fit the current Drug Court program needs. Instead of one statewide system, each individual site was provided with a server for client data. This data is then merged into an overall state server for statewide reporting. The implementation of the KDC-MIS began with the intake assessment development and automation for both adult and adolescent Drug Court participants. Then intake status tracking was implemented, the first level database architecture, exit interview, second level database architecture and program monitoring were developed. Once the basic structure of the MIS was in place for inputting information, feedback mechanisms were developed including template development, site reports, and statewide reports. Once the input and output mechanisms of the MIS were in place, beta testing was implemented in multiple sites and help manuals were developed. Technical assistance and training were then provided to ensure a smooth transition of Drug Court staff to the KDC-MIS. Throughout the project careful attention was paid to consistent and open communication between key stakeholders. This communication took place through regular meetings with key stakeholders.

Concluding Remarks

Phase I of this report provided background information from the literature, interviews with other Drug Court programs which had an MIS, Drug Court staff focus groups and administrative interviews. In Phase II, the background information collected in Phase I was used to develop recommendations for the Kentucky Drug Court management information system. Phase III described the development and implementation of the KDC-MIS. This process was overall, a collaborative process which included the Drug Court program manager and staff, AOC, a programmer, a systems engineer, and an evaluator. This collaborative process produced a user friendly MIS system adapted and developed specifically for Kentucky Drug Court program needs. The system works well within the constraints the Drug Court program operations with regard to computer systems because of the close collaboration and support provided by AOC. Finally, this system is designed to provide optimal information for program feedback and progress on a regular basis as well as for both process and outcome evaluations which are required for Drug Court program funding.

References

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Copy of Buffalo, New York Drug Court Management Information System available at http://www.American.edu/justice/MIS.htm

Frequently Asked Questions Regarding the Buffalo MIS available at http://gurukul.ucc.American.edu/justice/MISrev.htm

Guideline for compiling and Entering into a Data Base Information System Relevant to Drug Court Program Evaluation at http://gurukul.ucc.American.edu/justice/guide.html